

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.02.98
Test oil : ISO 4113

Combination No. : 0 403 466 137DB

Injection pump
Pump designation : PES6MW100/120RS1148
EP type number : 0 413 406 143

Governor
Governor design. : RSV400...900MW7A319
: -24
Governor no. : 0 420 085 216

Cust. part No. : 3921083

Customer spec. information
Customer : CDC
Motor : 6 CTA

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1 688 901 017

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

A01

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 3.65
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery mark

°NW after s.o.d. : 9.00
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 13.55
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 179.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Rated speed rpm : 400

Rack travel in mm : 5.80
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 18.0

Tolerance
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 4.5

Spreed

Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : \pm 0.20

governor spring
pre-tension
click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 750
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 179.0

A02

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

CONTROL LEVER

control lever
position degree : 105.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 12.50
Rated speed rpm : 795
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 830
Tolerance 1/min : \pm 5

rack travel mm : 1.00
Tolerance mm : \pm 0.70
Rated speed rpm : 875

rack travel mm : 4.00
Rated speed rpm : 835
Tolerance 1/min : \pm 15

LOW IDLE

control lever
position degree : 79.0
tolerance degree : \pm 4.0

Control Lever difference
Grad : 26.0
tolerance degree : \pm 6.0

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. : > 19.00

Testing:

Rated speed rpm : 400
rack travel mm : 5.80
Tolerance mm : \pm 0.10

TORQUE CONTROL

Rated speed rpm : 750
rack travel mm : 13.55
Tolerance mm : \pm 0.05

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : \pm 1.00
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 15.0

LOW IDLE

Rated speed rpm : 400

Rack travel in mm : 5.80
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.11.97
Test oil : ISO 4113

Combination No. : F 002 A0Z 039

Injection pump
Pump designation : PES6A95D320/3RS2881
EP type number : 9 410 037 215

Governor
Governor design. : RSV500...1100A0C919R
Governor no. : F 002 A20 229

Cust. part No. : 3932479

Customer-spec. information
Customer : CDC
Motor : 6BT
Power KW : 101.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

A04

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Start of delivery blocking

*NW after s.o.d. : 7.00
Tolerance : ± 0.50
Check
tolerance *NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.25
Tolerance mm : ± 0.05

Del. quantity cm ³ /1000 strokes	: 94.0
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Tolerance cm ³ /1000 strokes	: ± 1.0
<hr/>	
Check tolerance cm ³ /1000S.	: ± 3.0
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Speed	
<hr/>	
Tolerance cm ³ /1000 strokes	: 3.5
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Check tolerance cm ³ /1000S.	: 6.0
<hr/>	

Rated speed rpm	: 500
<hr/>	
Rack travel in mm	: 5.10
Tolerance mm	: ± 0.10
Del. quantity cm ³ /1000 strokes	: 18.5
Tolerance cm ³ /1000 strokes	: ± 2.0
Check tolerance cm ³ /1000S.	: ± 4.5
Speed	
Tolerance cm ³ /1000 strokes	: 3.5
Check tolerance cm ³ /1000S.	: 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree	: - 3
Rated speed rpm	: 800
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Rack travel in mm	: 0.50
Tolerance mm	: ± 0.20
<hr/>	
governor spring pre-tension click setting x	: 1.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
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A05

Aneroid pressure hPa	: 900
Del. quantity cm ³ /1000 strokes	: 94.0
Tolerance cm ³ /1000 strokes	: ± 1.0
Check tolerance cm ³ /1000S.	: ± 3.0
Speed	
Tolerance cm ³ /1000 strokes	: 3.5
Check tolerance cm ³ /1000S.	: 6.0

CONTROL LEVER

control lever position degree	: 92.0
tolerance degree	: ± 4.0

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RATED SPEED	
rack travel mm	: 10.20
Rated speed rpm	: 1170
Tolerance 1/min	: ± 5

rack travel mm	: 5.40
Rated speed rpm	: 1235
Tolerance 1/min	: ± 5

rack travel mm	: 0.85
Tolerance mm	: ± 0.55
Rated speed rpm	: 1350

rack travel mm	: 5.40
Rated speed rpm	: 1235
Tolerance 1/min	: ± 15

LOW IDLE

control lever position degree	: 75.0
tolerance degree	: ± 4.0

Control lever difference Grad	: 17.0
tolerance degree	: ± 6.0

Setting point w/out bumper spring

Rated speed rpm	: 500
rack travel mm	: 4.60
Tolerance mm	: ± 0.10

Rated speed rpm	: 100
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CRT min. : > 19.00

Testing:

Rated speed rpm : 500
rack travel mm : 5.10
Tolerance mm : \pm 0.10

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 11.25
Tolerance mm : \pm 0.05

Rated speed rpm : 800
rack travel mm : 12.15
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 800
Pressure hPa : 900

Rated speed rpm : 800
Pressure hPa : -
rack travel mm : 11.30
Tolerance mm : \pm 0.20

MEASUREMENT

Rated speed rpm : 800
Pressure hPa : 650
rack travel mm : 11.65
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 107.5
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

Aneroid pressure
hPa : -

A06

Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 97.5
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 120.5
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 15.0

LOW IDLE

Rated speed rpm : 500
Rack travel in mm : 5.10
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 18.5
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.03.98
Test oil : ISO 4113

Combination No. : F 002 A02 042

Injection pump
Pump designation : PES6A95D320/3RS2881
EP type number : 9 410 037 215

Governor
Governor design. : RSV500...1100A0C924R
Governor no. : F 002 A20 232

Cust. part No. : 3932477

Customer-spec. information
Customer : CDC
Motor : 6BT
Power KW : 82.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

A07

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Start of delivery blocking

*NW after s.o.d. : 7.00
Tolerance : ± 0.50
Check
tolerance *NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 9.85
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 78.5

Tolerance	
cm ³ /1000 strokes	: + 1.0
Check tolerance	
cm ³ /1000S.	: + 3.0
Speed	
Tolerance	
cm ³ /1000 strokes	: 3.5
Check tolerance	
cm ³ /1000S.	: 6.0

Rated speed rpm	: 500
Rack travel in mm	: 5.10
Tolerance mm	: + 0.10
Del. quantity	
cm ³ /1000 strokes	: 18.5
Tolerance	
cm ³ /1000 strokes	: + 2.0
Check tolerance	
cm ³ /1000S.	: + 4.5
Speed	
Tolerance	
cm ³ /1000 strokes	: 3.5
Check tolerance	
cm ³ /1000S.	: 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever	
position degree	: - 3
Rated speed rpm	: 800
Rack travel in mm	: 0.50
Tolerance mm	: + 0.20
governor spring	
pre-tension	
click setting x	: 2.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure	
mmHg	: -

A08

Del. quantity	
cm ³ /1000 strokes	: 78.5
Tolerance	
cm ³ /1000 strokes	: + 1.0
Check tolerance	
cm ³ /1000S.	: + 3.0
Speed	
Tolerance	
cm ³ /1000 strokes	: 3.5
Check tolerance	
cm ³ /1000S.	: 6.0

CONTROL LEVER

control lever	
position degree	: 95.0
tolerance degree	: + 4.0

RATED SPEED

rack travel mm	: 8.80
Rated speed rpm	: 1165
Tolerance 1/min	: + 5
Check	
speed 1/min	: + 10

rack travel mm	: 5.40
Rated speed rpm	: 1225
Tolerance 1/min	: + 5
Check	
speed 1/min	: + 10

rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1400

rack travel mm	: 5.40
Rated speed rpm	: 1225
Tolerance 1/min	: + 15
Check	
speed 1/min	: + 20

LOW IDLE

control lever	
position degree	: 80.0
tolerance degree	: + 4.0

Control lever difference

Grad	: 15.0
tolerance degree	: + 6.0

Setting point w/out bumper spring

Rated speed rpm	: 500
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rack travel mm : 4.60
Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

Testing:

Rated speed rpm : 500
rack travel mm : 5.10
Tolerance mm : ± 0.10

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 9.85
Tolerance mm : ± 0.05

Rated speed rpm : 800
rack travel mm : 10.90
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 90.5
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 120.5
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 15.0

LOW IDLE

Rated speed rpm : 500

Rack travel in mm : 5.10
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 18.5

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.5

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.02.98
Test oil : ISO 4113

Combination No. : F 002 A0Z 043

Injection pump
Pump designation : PES6A95D320/3RS2881
EP type number : 9 410 037 215

Governor
Governor design. : RSV500...1100AQC925R
Governor no. : F 002 A20 233

Cust. part No. : 3932478

Customer spec. information
Customer : CDC
Motor : 6BT
Power kW : 90.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

A10

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Start of delivery blocking

*NW after s.o.d. : 7.00
Tolerance : ± 0.50
Check
tolerance *NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 10.85
Tolerance mm : ± 0.05

Del. quantity cm ³ /1000 strokes	:	86.0
Tolerance cm ³ /1000 strokes	:	± 1.0
Check tolerance cm ³ /1000S.	:	± 3.0
Speed		
Tolerance cm ³ /1000 strokes	:	3.5
Check tolerance cm ³ /1000S.	:	6.0

Rated speed rpm	:	500
Rack travel in mm	:	5.40
Tolerance mm	:	± 0.10
Del. quantity cm ³ /1000 strokes	:	18.5
Tolerance cm ³ /1000 strokes	:	± 2.0
Check tolerance cm ³ /1000S.	:	± 4.5
Speed		
Tolerance cm ³ /1000 strokes	:	3.5
Check tolerance cm ³ /1000S.	:	5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree	:	- 3
Rated speed rpm	:	800
Rack travel in mm	:	0.50
Tolerance mm	:	± 0.20
governor spring pre-tension click setting x	:	5.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	1100
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Aneroid pressure hPa	:	900
Del. quantity cm ³ /1000 strokes	:	86.0
Tolerance cm ³ /1000 strokes	:	± 1.0
Check tolerance cm ³ /1000S.	:	± 3.0
Speed		
Tolerance cm ³ /1000 strokes	:	3.5
Check tolerance cm ³ /1000S.	:	6.0

CONTROL LEVER

control lever position degree	:	94.0
tolerance degree	:	± 4.0

RATED SPEED		
rack travel mm	:	9.80
Rated speed rpm	:	1165
Tolerance 1/min	:	± 5
Check speed 1/min	:	± 10

rack travel mm	:	6.00
Rated speed rpm	:	1220
Tolerance 1/min	:	± 5
Check speed 1/min	:	± 10

rack travel mm	:	0.85
Tolerance mm	:	± 0.55
Rated speed rpm	:	1350

rack travel mm	:	6.00
Rated speed rpm	:	1230
Tolerance 1/min	:	± 15
Check speed 1/min	:	± 20

LOW IDLE

control lever position degree	:	30.0
tolerance degree	:	± 4.0

Control lever difference Grad	:	14.0
tolerance degree	:	± 6.0

Setting point w/out bumper spring

Rated speed rpm : 500
rack travel mm : 4.90
Tolerance mm : \pm 0.10

Rated speed rpm : 100
CRT min. : $>$ 19.00

Testing:

Rated speed rpm : 500
rack travel mm : 5.40
Tolerance mm : \pm 0.10

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 10.85
Tolerance mm : \pm 0.05

Rated speed rpm : 800
rack travel mm : 11.55
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 800
Pressure hPa : -

MEASUREMENT

Pressure hPa : 800
rack travel mm : 11.05
Tolerance mm : \pm 0.30

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 96.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 120.5
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 15.0

LOW IDLE

Rated speed rpm : 500
Rack travel in mm : 5.40
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 18.5
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 23.02.98
Test oil : ISO 4113

Combination No. : F 002 A02 057

Injection pump
Pump designation : PES4A95D320/3RS2927
EP type number : F 002 A10 017

Governor
Governor design. : RSV475...1250ADC936R
Governor no. : F 002 A20 241

Cust. part No. : 3930145

Customer spec. information
Customer : CDC
Motor : 4BNA3.9
Power kW : 59.7

TEST BENCH REQUIREMENTS

Inlet Line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

A13

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery blocking

*NW after s.o.d. : 8.50
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 10.20
Tolerance mm : ± 0.05

Del. quantity cm ³ /1000 strokes	:	92.0
Tolerance cm ³ /1000 strokes	:	± 1.0
Check tolerance cm ³ /1000S.	:	± 3.0
Spreed		
Tolerance cm ³ /1000 strokes	:	3.5
Check tolerance cm ³ /1000S.	:	6.0

Rated speed rpm	:	475
Rack travel in mm	:	5.00
Tolerance mm	:	± 0.10
Del. quantity cm ³ /1000 strokes	:	13.5
Tolerance cm ³ /1000 strokes	:	± 2.0
Check tolerance cm ³ /1000S.	:	± 4.5
Spreed		
Tolerance cm ³ /1000 strokes	:	3.5
Check tolerance cm ³ /1000S.	:	5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree	:	- 3
Rated speed rpm	:	800
Rack travel in mm	:	0.50
Tolerance mm	:	± 0.20
governor spring pre-tension click setting x	:	3.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	1250
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Aneroid pressure hPa	:	-
Del. quantity cm ³ /1000 strokes	:	92.0
Tolerance cm ³ /1000 strokes	:	± 1.0
Check tolerance cm ³ /1000S.	:	± 3.0
Spreed		
Tolerance cm ³ /1000 strokes	:	3.5
Check tolerance cm ³ /1000S.	:	6.0

CONTROL LEVER

control lever position degree	:	91.0
tolerance degree	:	± 4.0

RATED SPEED		
rack travel mm	:	9.20
Rated speed rpm	:	1340
Tolerance 1/min	:	± 5

rack travel mm	:	4.00
Rated speed rpm	:	1400
Tolerance 1/min	:	± 5

rack travel mm	:	0.85
Tolerance mm	:	± 0.55
Rated speed rpm	:	1475

rack travel mm	:	4.00
Rated speed rpm	:	1400
Tolerance 1/min	:	± 15

LOW IDLE

control lever position degree	:	70.0
tolerance degree	:	± 4.0

Control lever difference Grad	:	21.0
tolerance degree	:	± 6.0

Setting point w/out bumper spring

Rated speed rpm	:	475
rack travel mm	:	4.50
Tolerance mm	:	± 0.10

Rated speed rpm	:	100
-----------------	---	-----

CRT min. : > 19.00

Testing:

Rated speed rpm : 475
rack travel mm : 5.00
Tolerance mm : \pm 0.10

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 10.20
Tolerance mm : \pm 0.05

Rated speed rpm : 600

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 15.0

LOW IDLE

Rated speed rpm : 475
Rack travel in mm : 5.00
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 13.5
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.03.98
Test oil : ISO 4113

Combination No. : F 002 A02 061

Injection pump
Pump designation : PES4A95D320/3RS2927
EP type number : F 002 A10 017

Governor
Governor design. : RSV475...1100A2C941R
Governor no. : F 002 A20 242

Cust. part No. : 3930143

Customer-spec. information
Customer : CDC
Motor : 4BNA3.9
Power kW : 54.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

A16

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery blocking

*NW after s.o.d. : 9.50
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 10.55
Tolerance mm : ± 0.05

Rated speed rpm : 515
 Rack travel in mm : 5.40
 Tolerance mm : + 0.20
 Del. quantity
 cm³/1000 strokes : 13.5
 Tolerance
 cm³/1000 strokes : + 2.0
 Check tolerance
 cm³/1000S. : + 4.5
 Spread
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 3
 Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : + 0.20
 governor spring
 pre-tension
 click setting x : 3.00

CONTROL LEVER

control lever
 position degree : 100.0
 tolerance degree : + 4.0
 RATED SPEED
 rack travel mm : 9.50
 Rated speed rpm : 1160
 Tolerance 1/min : + 5
 rack travel mm : 4.00
 Rated speed rpm : 1225
 Tolerance 1/min : + 5
 rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1325

rack travel mm : 4.00
 Rated speed rpm : 1235
 Tolerance 1/min : + 15

LOW IDLE

control lever
 position degree : 81.0
 tolerance degree : + 4.0

Control lever difference
 Grad : 19.0
 tolerance degree : + 6.0

Setting point w/out bumper spring

Rated speed rpm : 515
 rack travel mm : 4.90
 Tolerance mm : + 0.20

Rated speed rpm : 100
 CRT mm min. : > 19.00

Testing:

Rated speed rpm : 515
 rack travel mm : 5.40
 Tolerance mm : + 0.20

TORQUE CONTROL

Rated speed rpm : 1100
 rack travel mm : 10.55
 Tolerance mm : + 0.05

Rated speed rpm : 600
 rack travel mm : 10.55
 Tolerance mm : + 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : -
 Rated speed rpm : 600
 Del. quantity
 cm³/1000 strokes : 82.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 3.0
 Spread

Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 6.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 15.0

LOW IDLE

Rated speed rpm : 515
Rack travel in mm : 5.40
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 13.5
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.03.98
Test oil : ISO 4113
Combination No. : 0 401 846 370
Injection pump
Pump designation : PE6P110A320RS157
EP type number : 0 411 816 108
Governor
Governor design. : RQV250...550/1150PA1
: 40R
Governor no. : 0 421 813 184
Cust. part No. : 516208005011

Customer spec. information

Customer : STEYR
Motor : 7 FA
Power KW : 235.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 047
Inlet press. bar : 1.5
Overflow quantity
min. l/h : 120
Tolerance l/h : ± 20.0
Test nozzle holder
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.05
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery mark

Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 12.25
Tolerance mm : ± 0.05

Del. quantity cm ³ /1000 strokes	:	170.0
<hr/>		
Tolerance cm ³ /1000 strokes	:	± 1.0
<hr/>		
Check tolerance cm ³ /1000S.	:	± 4.0
<hr/>		
Speed		
<hr/>		
Tolerance cm ³ /1000 strokes	:	4.0
<hr/>		
Check tolerance cm ³ /1000S.	:	8.0
<hr/>		

Rated speed rpm	:	250
<hr/>		
Rack travel in mm	:	6.30
Tolerance mm	:	± 0.10
Del. quantity cm ³ /1000 strokes	:	16.0
Tolerance cm ³ /1000 strokes	:	± 3.0
Check tolerance cm ³ /1000S.	:	± 5.5
<hr/>		
Speed		
<hr/>		
Tolerance cm ³ /1000 strokes	:	4.0
Check tolerance cm ³ /1000S.	:	7.0
<hr/>		

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree	:	- 1
Rated speed rpm	:	1150
<hr/>		
Rack travel in mm	:	16.50
Tolerance mm	:	± 1.30
<hr/>		

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	1150
Aneroid pressure hPa	:	900
Del. quantity cm ³ /1000 strokes	:	170.0

A20

Tolerance cm ³ /1000 strokes	:	± 1.0
Check tolerance cm ³ /1000S.	:	± 4.0
<hr/>		
Speed		
<hr/>		
Tolerance cm ³ /1000 strokes	:	4.0
Check tolerance cm ³ /1000S.	:	8.0
<hr/>		

CONTROL LEVER

control lever position degree	:	122.0
tolerance degree	:	± 4.0

RATED SPEED

rack travel mm	:	11.20
Rated speed rpm	:	1195
Tolerance 1/min	:	± 5

rack travel mm	:	4.00
Rated speed rpm	:	1275
Tolerance 1/min	:	± 15

rack travel mm	:	0.50
Tolerance mm	:	± 0.50
Rated speed rpm	:	1450

LOW IDLE

control lever position degree	:	66.0
tolerance degree	:	± 4.0

Setting point w/out bumper spring

Rated speed rpm	:	100
CRT mm min.	:	> 7.50

Testing:

Rated speed rpm	:	250
rack travel mm	:	6.30
Tolerance mm	:	± 0.10

rack travel mm	:	2.00
Rated speed rpm	:	440
Tolerance 1/min	:	± 30

TORQUE CONTROL

Rated speed rpm	:	1150
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rack travel mm : 12.25
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 12.25
Tolerance mm : \pm 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.60
Tolerance mm : \pm 0.15

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 300
rack travel mm : 11.00
Tolerance mm : \pm 0.10

Pressure hPa : 380
rack travel mm : 11.75
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 1150
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Check tolerance
cm³/1000S. : 9.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 16.00
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 215.0

Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 250
Rack travel in mm : 6.30
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.5
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 7.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.03.98
Test oil : ISO 4113
Combination No. : 0 401 846 974
Injection pump
Pump designation : PE6P110A720LS3283
EP type number : 0 411 816 786
Governor
Governor design. : RQ250/1000PA1067
Governor no. : 0 421 801 684

Cust. part No. :

Customer-spec. information
Customer : IVECO-PEGASO
Motor : 95 TEGZ
Power kW : 165.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 250
Rack travel in mm : 4.60
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : ± 2.5
Check tolerance
cm³/1000S. : ± 5.0
Speed
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 550

Rack travel in mm : 16.00
Tolerance mm : \pm 0.60

RATED SPEED
rack travel mm : 9.80
Rated speed rpm : 1048
Tolerance 1/min : \pm 8

rack travel mm : 4.00
Rated speed rpm : 1115
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 73.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. : $>$ 6.10

Testing:

Rated speed rpm : 250
rack travel mm : 4.60
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 340
Tolerance 1/min : \pm 20

TORQUE CONTROL

A23

Rated speed rpm : 600
rack travel mm : 11.35
Tolerance mm : \pm 0.05

Rated speed rpm : 980
rack travel mm : 11.30
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 10.85
Tolerance mm : \pm 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 8.10
Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 310
rack travel mm : 8.90
Tolerance mm : \pm 0.10

Pressure hPa : 520
rack travel mm : 10.15
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 980
Del. quantity
cm³/1000 strokes : 178.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 118.0
Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : ± 3.5

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 250

Rack travel in mm : 4.60
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : ± 2.5
Check tolerance
cm³/1000S. : ± 5.0
Speed
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.03.98
Test oil : ISO 4113

Combination No. : 0 401 876 796

Injection pump
Pump designation : PE6P120A320LS3815
: -13
EP type number : 0 411 826 782

Governor
Governor design. : RSV675...1050POA820
: -12
Governor no. : 0 421 833 401

Cust. part No. : 0240745302

Customer-spec. information
Customer : MB-NFZ
Motor : OM441A
Power kW : 162.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 019

Opening pressure
bar : 208.5

A25

Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.65
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery mark

Tolerance : ± 0.10
Check
tolerance °NW : ± 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1080

Rack travel in mm : 10.00
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 146.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 675

Rack travel in mm : 3.40
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 17.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Speed

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

governor spring
pre-tension
click setting x : 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1080
Aneroid pressure

hPa : -

Del. quantity
cm³/1000 strokes : 146.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 93.0
tolerance degree : ± 4.0

LOW IDLE

control lever
position degree : 77.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 100

CR min. : > 19.50

ng:

Rated speed rpm : 675
rack travel mm : 3.40
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 705
Tolerance 1/min : ± 30

SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

TORQUE CONTROL

Rated speed rpm : 1080
rack travel mm : 10.00
Tolerance mm : \pm 0.05

Rated speed rpm : 700
rack travel mm : 11.30
Tolerance mm : \pm 0.10

Rated speed rpm : 925
rack travel mm : 10.60
Tolerance mm : \pm 0.10

Rated speed rpm : 500
rack travel mm : 11.30
Tolerance mm : \pm 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 177.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

rack travel mm : 10.60
Tolerance mm : \pm 0.10

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 675

Rack travel in mm : 3.40
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.03.98
Test oil : ISO 4113

Combination No. : 0 402 036 755

Injection pump
Pump designation : PES6P120A720/3LS3255
: -2
EP type number : 0 412 026 768

Governor
Governor design. : RQ300/1000PA813-23
Governor no. : 0 421 801 710

Cust. part No. : 51.11103-7336

Customer spec. information
Customer : MAN
Motor : D2866LU08
Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.75
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 15.00
Tolerance mm : ± 0.50

Firing order : 6- 2- 4- 1- 5-
: 3

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.90
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 205.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.30
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spreed
Tolerance

cm³/1000 strokes : 8.0
Check tolerance

cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1050
guide sleeve

travel mm : 7.31
Tolerance mm : + 0.10

Rated speed rpm : 300
guide sleeve

travel mm : 2.15
Tolerance mm : + 0.10

Rated speed rpm : 1000
guide sleeve

travel mm : 7.00
Tolerance mm : + 0.10

Rated speed rpm : 383
guide sleeve

travel mm : 5.04
Tolerance mm : + 0.10

Rated speed rpm : 480
guide sleeve

travel mm : 7.00
Tolerance mm : + 0.10

Rated speed rpm : 1220
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
position degree : 109
Rated speed rpm : 550

Rack travel in mm : 15.50
Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 205.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed
Tolerance

cm³/1000 strokes : 5.0
Check tolerance

cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 285.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 12.90
Rated speed rpm : 1053
Tolerance 1/min : + 8

rack travel mm : 4.00
Rated speed rpm : 1150
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1260

LOW IDLE

control lever
position degree : 255.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 200
CRT mm min. : $>$ 9.80

Testing:

Rated speed rpm : 300
rack travel mm : 6.30
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 380
Tolerance 1/min : \pm 20

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.90
Tolerance mm : \pm 0.05

Rated speed rpm : 1000
rack travel mm : 13.90
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 13.90
Tolerance mm : \pm 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 11.35
Tolerance mm : \pm 0.15

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 450
rack travel mm : 13.30
Tolerance mm : \pm 0.15

Pressure hPa : 110
rack travel mm : 11.65
Tolerance mm : \pm 0.05

Start interlock

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 220

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 280

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1200
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 212.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure

hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 230.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 6.30
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.03.98
Test oil : ISO 4113

Combination No. : 0 402 036 758

Injection pump
Pump designation : PES6P120A720/3LS3255
: -4
EP type number : 0 412 026 775

Governor
Governor design. : RQ300/1000PA813-23
Governor no. : 0 421 801 710

Cust. part No. : 51.11103-7387

Customer-spec. information
Customer : MAN
Motor : D2666LU08
Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.75
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 15.00
Tolerance mm : ± 0.50

Firing order : 6- 2- 4- 1- 5-
: 3

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.90
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 205.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.30
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Spread

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1050
guide sleeve
travel mm : 7.31
Tolerance mm : ± 0.10

Rated speed rpm : 300
guide sleeve
travel mm : 2.15
Tolerance mm : ± 0.10

Rated speed rpm : 1000
guide sleeve
travel mm : 7.00
Tolerance mm : ± 0.10

Rated speed rpm : 383
guide sleeve
travel mm : 5.04
Tolerance mm : ± 0.10

Rated speed rpm : 480
guide sleeve
travel mm : 7.00
Tolerance mm : ± 0.10

Rated speed rpm : 1220
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
position degree : 109
Rated speed rpm : 550

Rack travel in mm : 15.50
Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 205.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 285.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 12.90
Rated speed rpm : 1053
Tolerance 1/min : ± 8

rack travel mm : 4.00
Rated speed rpm : 1150
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1260

LOW IDLE

control lever
position degree : 255.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 200
CRT mm min. : $>$ 9.80

Testing:

Rated speed rpm : 300
rack travel mm : 6.30
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 380
Tolerance 1/min : \pm 20

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.90
Tolerance mm : \pm 0.05

Rated speed rpm : 1000
rack travel mm : 13.90
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 13.90
Tolerance mm : \pm 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 11.35
Tolerance mm : \pm 0.15

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 450
rack travel mm : 13.30
Tolerance mm : \pm 0.15

Pressure hPa : 110
rack travel mm : 11.65
Tolerance mm : \pm 0.05

Start interlock

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 220

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 280

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 212.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/100GS. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/100GS. : \pm 4.0

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 230.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/100GS. : \pm 14.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 6.30
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 03.11.97
Test oil : ISO 4113
Combination No. : 0 402 046 234
Injection pump
Pump designation : PES6P110A820LS442
EP type number : 0 412 016 060
Governor
Governor design. : RQ300/1100PA327-5
Governor no. : 0 421 801 163

Cust. part No. :

Customer-spec. information
Customer : MB-NFZ
Motor : 407 STEHEND
Power kW : 162.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 20.0

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 1.5
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.25
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 6- 2- 4- 1- 5-
: 3

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery mark

Tolerance : ± 0.10
Check
tolerance °NW : ± 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.05
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 117.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 3.5

Spread

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 8.0

Rated speed rpm : 300

Rack travel in mm : 6.10
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 15.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 5.5

Spread

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1153
guide sleeve
travel mm : 7.63
Tolerance mm : + 0.15

Rated speed rpm : 300
guide sleeve
travel mm : 1.87
Tolerance mm : + 0.20

Rated speed rpm : 1100
guide sleeve
travel mm : 7.00
Tolerance mm : + 0.10

Rated speed rpm : 373
guide sleeve
travel mm : 4.84
Tolerance mm : + 0.10

Rated speed rpm : 460
guide sleeve
travel mm : 7.00
Tolerance mm : + 0.10

Rated speed rpm : 1250
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 600

Rack travel in mm : 13.50
Tolerance mm : + 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 117.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 3.5
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

RATED SPEED
rack travel mm : 10.00
Rated speed rpm : 1145
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1190
Tolerance 1/min : + 15

rack travel mm : 1.00
Tolerance mm : + 1.00
Rated speed rpm : 1300

LOW IDLE

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. : > 7.50

Testing:

Rated speed rpm : 300
rack travel mm : 6.10
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 370
Tolerance 1/min : \pm 20

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 11.05
Tolerance mm : \pm 0.05

Rated speed rpm : 600
rack travel mm : 11.05
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 95.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 140.0
Tolerance
cm³/1000 strokes : \pm 10.0

Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 6.10
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 15.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.5
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 7.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.03.98
Test oil : ISO 4113

Combination No. : 0 402 046 882

Injection pump
Pump designation : PES6P110A320RS3329
EP type number : 0 412 016 743

Governor
Governor design. : RQV325...1250PA1385
Governor no. : 0 421 814 209

Cust. part No. : 1351707

Customer-spec. information
Customer : DAF
Motor : NS177M-CBP
Power kW : 177.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. L/h : 165
Tolerance L/h : ± 5.0

Test nozzle holder
assembly : 0 432 191 593

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 12.80
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2
: - 4

Phasing : 0- 60- 120- 180
: - 240- 300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.70

Start of delivery mark

Tolerance : ± 0.10
Check
tolerance °NW : ± 0.70

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.80
Tolerance mm : ± 0.05

Del. quantity cm ³ /1000 strokes	: 154.5
Tolerance cm ³ /1000 strokes	: ± 1.0
Check tolerance cm ³ /1000S.	: ± 4.0
Spread	
Tolerance cm ³ /1000 strokes	: 5.0
Check tolerance cm ³ /1000S.	: 9.0

Rated speed rpm	: 325
Rack travel in mm	: 4.40
Tolerance mm	: ± 0.10
Del. quantity cm ³ /1000 strokes	: 26.0
Tolerance cm ³ /1000 strokes	: ± 3.0
Check tolerance cm ³ /1000S.	: ± 6.0
Spread	
Tolerance cm ³ /1000 strokes	: 8.0
Check tolerance cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 1303
guide sleeve travel mm	: 10.33
Tolerance mm	: ± 0.15
Rated speed rpm	: 325
guide sleeve travel mm	: 1.25
Tolerance mm	: ± 0.20
Rated speed rpm	: 865
guide sleeve travel mm	: 5.43
Tolerance mm	: ± 0.25
Rated speed rpm	: 520

guide sleeve travel mm	: 3.02
Tolerance mm	: ± 0.25

Rated speed rpm	: 1510
guide sleeve travel mm	: 13.50
Tolerance mm	: ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 1349
Rack travel in mm	: 11.80
Tolerance mm	: ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1000
Aneroid pressure hPa	: 1500
Del. quantity cm ³ /1000 strokes	: 154.5
Tolerance cm ³ /1000 strokes	: ± 1.0
Check tolerance cm ³ /1000S.	: ± 4.0
Spread	
Tolerance cm ³ /1000 strokes	: 5.0
Check tolerance cm ³ /1000S.	: 9.0

CONTROL LEVER

control lever position degree	: 122.0
tolerance degree	: ± 4.0

RATED SPEED	
rack travel mm	: 11.80
Rated speed rpm	: 1290
Tolerance 1/min	: ± 5
Check speed 1/min	: ± 10

rack travel mm	: 4.00
Rated speed rpm	: 1375
Tolerance 1/min	: ± 15
Check speed 1/min	: ± 20

rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1500

LOW IDLE

control lever
position degree : 76.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 225
CRT mm min. : $>$ 6.00

Testing:

Rated speed rpm : 325
rack travel mm : 4.40
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 375
Tolerance 1/min : \pm 50

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 12.80
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1500
rack travel mm : 12.80
Tolerance mm : \pm 0.10

Rated speed rpm : 600
Pressure hPa : -
rack travel mm : 7.10
Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 600
Pressure hPa : 210
rack travel mm : 8.60
Tolerance mm : \pm 0.10

Pressure hPa : 410
rack travel mm : 11.40
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 93.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000s. : \pm 4.0

LOW IDLE

Rated speed rpm : 325
Rack travel in mm : 4.40
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 26.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000s. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.03.98
Test oil : ISO 4113
Combination No. : 0 402 076 058
Injection pump
Pump designation : PES6P120A700RS532-1
EP type number : 0 412 026 061
Governor
Governor design. : RSV300...1200POA552
Governor no. : 0 421 833 368

Cust. part No. :

Customer spec. information
Customer : IVECO-AIFO
Motor : 8361 SRM 37

TEST BENCH REQUIREMENTS

Inlet line : 2.4
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1 688 901 019
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 075
Outside diameter : 8.0
x inside diameter : 2.5

B14

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 3.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75
Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200
Rack travel in mm : 13.55
Tolerance mm : ± 0.05
Rated speed rpm : 300
Rack travel in mm : 4.80
Tolerance mm : ± 0.10

Del. quantity
 cm³/1000 strokes : 20.0
 Tolerance
 cm³/1000 strokes : ± 3.0
 Check tolerance
 cm³/1000S. : ± 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 3
 Rated speed rpm : 800

 Rack travel in mm : 0.50
 Tolerance mm : ± 0.20

 governor spring
 pre-tension
 click setting x : 4.00

CONTROL LEVER

control lever
 position degree : 102.0
 tolerance degree : ± 4.0

 RATED SPEED
 rack travel mm : 12.50
 Rated speed rpm : 1245
 Tolerance 1/min : ± 5

 rack travel mm : 4.00
 Rated speed rpm : 1310
 Tolerance 1/min : ± 15

 rack travel mm : 0.85
 Tolerance mm : ± 0.55
 Rated speed rpm : 1450

LOW IDLE

control lever
 position degree : 70.0
 tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 300
 rack travel mm : 4.30
 Tolerance mm : ± 0.10

Testing:

Rated speed rpm : 300
 rack travel mm : 4.80
 Tolerance mm : ± 0.10

 rack travel mm : 2.00
 Rated speed rpm : 375
 Tolerance 1/min : ± 30

TORQUE CONTROL

Rated speed rpm : 1200
 rack travel mm : 13.55
 Tolerance mm : ± 0.05

Rated speed rpm : 550
 rack travel mm : 13.60
 Tolerance mm : ± 0.10

Rated speed rpm : 350
 rack travel mm : 15.00
 Tolerance mm : ± 0.30

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : 900
 rack travel mm : 13.60
 Tolerance mm : ± 0.10

Rated speed rpm : 500
 Pressure hPa : -
 rack travel mm : 12.10
 Tolerance mm : ± 0.10

MEASUREMENT

Rated speed rpm : 500

 Pressure hPa : 400
 rack travel mm : 12.95
 Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

rack travel mm : 15.00
Tolerance mm : \pm 0.30

Aneroid pressure
hPa : -
Rated speed rpm : 500

STARTING FUEL DELIVERY

ESS test: With 12 V solenoid activated,
rack must reach start position in max.
control lever setting.

Rated speed rpm : 100

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 4.80
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.03.98
Test oil : ISO 4113

Combination No. : 0 402 076 060

Injection pump
Pump designation : PES6P110A720RS534
EP type number : 0 412 016 077

Governor
Governor design. : RSV450...1050P1A572
Governor no. : 0 421 833 428

Cust. part No. :

Customer-spec. information
Customer : IVECO-FRANCE
Motor : 8365.25.533

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 155
Tolerance l/h : ± 20.0

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.05
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 10.05
Tolerance mm : ± 0.05

Rated speed rpm : 450

Rack travel in mm : 5.00
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : + 0.20

governor spring
pre-tension
click setting x : 4.00

CONTROL LEVER

control lever
position degree : 108.0
tolerance degree : + 4.0

RATED SPEED
rack travel mm : 9.00
Rated speed rpm : 1095
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1130
Tolerance 1/min : + 15

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1300

rack travel mm : 4.00
Rated speed rpm : 1145

Tolerance 1/min : + 15

LOW IDLE

control lever
position degree : 80.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 450
rack travel mm : 4.50
Tolerance mm : + 0.10

Testing:

Rated speed rpm : 450
rack travel mm : 5.00
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 560
Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 10.05
Tolerance mm : + 0.05

Rated speed rpm : 550
rack travel mm : 10.10
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 10.10
Tolerance mm : + 0.10

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 9.30
Tolerance mm : + 0.10

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 450

rack travel mm : 9.91
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 121.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 104.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

ESS test: With 24 V solenoid activated,
rack must reach start position in max.
control lever setting.

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 450

Rack travel in mm : 5.00
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.02.98
Test oil : ISO 4113
Combination No. : 0 402 646 669
Injection pump
Pump designation : PE6P130A72ORS7197
EP type number : 0 412 636 815
Governor
Governor design. : RQV425...975PA1292
Governor no. : 0 421 814 184

Cust. part No. :

Customer-spec. information
Customer : IVECO-FRANCE
Motor : 8215.42.985
Power kW : 260.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 2 417 413 076
Inlet press. bar : 2.5
Tolerance bar : ± 0.1
Test nozzle holder
assembly : 1 688 901 105
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 075
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 5.05
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75
Start of delivery mark
Check
tolerance °NW : ± 0.40
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 975
Rack travel in mm : 13.45
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 257.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 8.0

Rated speed rpm : 425

Rack travel in mm : 5.00
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 22.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 7.0

Spread

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1034
guide sleeve
travel mm : 7.23
Tolerance mm : + 0.15

Rated speed rpm : 425
guide sleeve
travel mm : 2.40
Tolerance mm : + 0.20

Rated speed rpm : 860
guide sleeve
travel mm : 5.34
Tolerance mm : + 0.25

Rated speed rpm : 580
guide sleeve
travel mm : 3.68
Tolerance mm : + 0.25

Rated speed rpm : 1139

guide sleeve
travel mm : 10.00
Tolerance mm : + 0.25

Rated speed rpm : 1220
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1125

Rack travel in mm : 10.00
Tolerance mm : + 2.70

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 975
Aneroid pressure
hPa : 900

Del. quantity
cm³/1000 strokes : 257.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 8.0

CONTROL LEVER

control lever
position degree : 119.0
tolerance degree : + 4.0

RATED SPEED
rack travel mm : 12.40
Rated speed rpm : 1020
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1080
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 94.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 325

CRT mm min. : $>$ 6.50

Testing:

Rated speed rpm : 425
rack travel mm : 5.00
Tolerance mm : \pm 0.10

Rated speed rpm : 470

TORQUE CONTROL

Rated speed rpm : 975
rack travel mm : 13.45
Tolerance mm : \pm 0.05

Rated speed rpm : 550
rack travel mm : 13.50
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 13.50
Tolerance mm : \pm 0.10

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.90
Tolerance mm : \pm 0.20

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 470
rack travel mm : 11.50
Tolerance mm : \pm 0.20

Pressure hPa : 550
rack travel mm : 12.75

B22

Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 267.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 181.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

ESS test: With 24 V solenoid activated,
rack must reach start position in max.
control lever setting.

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 270.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 425
Rack travel in mm : 5.00
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 22.0
Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000s. : + 7.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.03.98
Test oil : ISO 4113

Combination No. : 0 402 646 763

Injection pump
Pump designation : PE6P120A320LS7834
: -10

EP type number : 0 412 626 853

Governor?
Governor design. : RGV300...1050PA1065
: -2

Governor no. : 0 421 814 135

Cust. part No. : 0260743702

Customer spec. information
Customer : MB-NFZ
Motor : 04401 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Overflow quantity
min. L/h : 220
Tolerance L/h : ± 20.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5

Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery mark

Tolerance : ± 0.10
Check
tolerance °NW : ± 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 230.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000s. : \pm 4.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000s. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.20
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000s. : \pm 6.0

Speed

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000s. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1108
guide sleeve
travel mm : 9.82
Tolerance mm : \pm 0.25

Rated speed rpm : 300
guide sleeve
travel mm : 1.13
Tolerance mm : \pm 0.25

Rated speed rpm : 370
guide sleeve
travel mm : 2.00
Tolerance mm : \pm 0.25

Rated speed rpm : 420
guide sleeve
travel mm : 2.49
Tolerance mm : \pm 0.25

Rated speed rpm : 750
guide sleeve
travel mm : 4.87
Tolerance mm : \pm 0.25

Rated speed rpm : 1310
guide sleeve
travel mm : 13.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1200

Rack travel in mm : 13.80
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Aneroid pressure
hPa : 1000
Del. quantity
cm³/1000 strokes : 230.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000s. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000s. : 9.0

CONTROL LEVER

control lever
position degree : 104.0
tolerance degree : \pm 4.0

RATED SPEED
rack travel mm : 13.80
Rated speed rpm : 1095
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1195

Tolerance 1/min : + 15
 rack travel mm : 0.75
 Tolerance mm : + 0.75
 Rated speed rpm : 1300

LOW IDLE

control lever
 position degree : 68.0
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200
 CRT mm min. : > 8.10

Testing:

Rated speed rpm : 300
 rack travel mm : 5.20
 Tolerance mm : + 0.10

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 550
 rack travel mm : 14.80
 Tolerance mm : + 0.05

Rated speed rpm : 1050
 rack travel mm : 14.80
 Tolerance mm : + 0.10

Rated speed rpm : 700
 rack travel mm : 14.80
 Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
 Pressure hPa : 1000
 rack travel mm : 14.80
 Tolerance mm : + 0.05

Rated speed rpm : 400
 Pressure hPa : -
 rack travel mm : 10.50
 Tolerance mm : + 0.15

MEASUREMENT

Rated speed rpm : 400
 Pressure hPa : 400
 rack travel mm : 12.90
 Tolerance mm : + 0.20

Pressure hPa : 600
 rack travel mm : 14.15
 Tolerance mm : + 0.20

Start interlock

Rated speed rpm : > 100
 Rated speed rpm : < 220

Check
 speed 1/min : > 80
 Check
 speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 1000
 Rated speed rpm : 1050
 Del. quantity
 cm³/1000 strokes : 227.0
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 6.0
 Speed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

rack travel mm : 14.80
 Tolerance mm : + 0.05

Aneroid pressure
 hPa : -
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 129.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0
 Speed
 Tolerance
 cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 5.20
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.10.97
Test oil : ISO 4113
Combination No. : 0 402 648 703
Injection pump
Pump designation : PE8P120A320LS7880
EP type number : 0 412 628 889
Governor
Governor design. : RGV350...1050FA1352
Governor no. : 0 421 814 197

Cust. part No. : 0270747202

Customer-spec. information
Customer : MB-NFZ
Motor : OM442 LA euromot
Power kW : 405.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Overflow quantity
min. L/h : 200
Tolerance L/h : ± 10.0

Test nozzle holde
assembly : 2 568 890 1105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.75
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery mark

Tolerance : ± 0.10
Check
tolerance °NW : ± 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 15.00
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 282.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 350

Rack travel in mm : 5.70
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1110
guide sleeve
travel mm : 8.10
Tolerance mm : \pm 0.15

Rated speed rpm : 350
guide sleeve
travel mm : 1.48
Tolerance mm : \pm 0.20

Rated speed rpm : 900
guide sleeve
travel mm : 5.69
Tolerance mm : \pm 0.25

Rated speed rpm : 580
guide sleeve
travel mm : 3.62
Tolerance mm : \pm 0.25

Rated speed rpm : 1204
guide sleeve
travel mm : 10.00
Tolerance mm : \pm 0.25

Rated speed rpm : 1300
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1154

Rack travel in mm : 14.00
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : 1300
Del. quantity
cm³/1000 strokes : 282.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 119.0
tolerance degree : \pm 4.0

RATED SPEED
rack travel mm : 14.00
Rated speed rpm : 1098
Tolerance 1/min : \pm 8

rack travel mm : 4.00
Rated speed rpm : 1190

Tolerance 1/min : + 15
 rack travel mm : 0.75
 Tolerance mm : + 0.75
 Rated speed rpm : 1250

LOW IDLE

control lever
 position degree : 67.0
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 250
 CRT mm min. : > 7.50

Testing:

Rated speed rpm : 350
 rack travel mm : 5.70
 Tolerance mm : + 0.10
 Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1050
 rack travel mm : 15.00
 Tolerance mm : + 0.05

Rated speed rpm : 600
 rack travel mm : 15.00
 Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : -

MEASUREMENT

Pressure hPa : 500
 rack travel mm : 1.40
 Tolerance mm : + 0.05

Pressure hPa : 1000
 rack travel mm : 5.80
 Tolerance mm : + 0.20

Start interlock

Rated speed rpm : > 210
 Rated speed rpm : < 270

Check
 speed 1/min : > 190
 Check
 speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 1300
 Rated speed rpm : 600
 Del. quantity
 cm³/1000 strokes : 298.5
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

Aneroid pressure
 hPa : -
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 132.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

REDUCED QUANTITY

Aneroid pressure
 hPa : 1300
 Rated speed rpm : 1050
 Del. quantity
 cm³/1000 strokes : 225.0
 Tolerance
 cm³/1000 strokes : + 2.0
 Check tolerance
 cm³/1000S. : + 5.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 280.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 350

Rack travel in mm : 5.70
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 18.12.97

Test oil : ISO 4113

Combination No. : 0 402 666 805

Injection pump

Pump designation : PE6P120A320/3LS7914

EP type number : 0 412 626 968

Governor

Governor design. : RSV600...1050POA642

Governor no. : 0 421 833 556

Cust. part No. : 0280743702

Customer-spec. information

Customer : MB-NFZ

Motor : OM 441 LA

Power kW : 300.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 2.0

Tolerance bar : ± 0.1

Overflow quantity

min. l/h : 220

Tolerance l/h : ± 20.0

Test nozzle holde
assembly

: 1 688 901 105

Opening pressure
bar

: 208.5

Tolerance bar : ± 1.5

C04

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : ± 1.0

Prestroke mm : 4.75

Tolerance mm : ± 0.05

Check

tolerance mm : ± 0.10

Rack travel in mm : 19.00

Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-45-120-165-240
: -285

Tolerance : ± 0.50

Check

tolerance °NW : ± 0.75

Start of delivery mark

Tolerance : ± 0.10

Check

tolerance °NW : ± 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1075

Rack travel in mm : 13.70

Tolerance mm : ± 0.05

Del. quantity cm ³ /1000 strokes	: 251.0
Tolerance cm ³ /1000 strokes	: ± 1.0
Check tolerance cm ³ /1000S.	: ± 4.0
Speed	
Tolerance cm ³ /1000 strokes	: 6.0
Check tolerance cm ³ /1000S.	: 9.0

Rated speed rpm	: 600
Rack travel in mm	: 2.00
Tolerance mm	: ± 0.10
Del. quantity cm ³ /1000 strokes	: 17.0
Tolerance cm ³ /1000 strokes	: ± 3.0
Check tolerance cm ³ /1000S.	: ± 6.0
Speed	
Tolerance cm ³ /1000 strokes	: 8.0
Check tolerance cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree	: - 3
Rated speed rpm	: 800
Rack travel in mm	: 0.50
Tolerance mm	: ± 0.20
governor spring pre-tension click setting x	: 1.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1075
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C05

Aneroid pressure hPa	: -
Del. quantity cm ³ /1000 strokes	: 251.0
Tolerance cm ³ /1000 strokes	: ± 1.0
Check tolerance cm ³ /1000S.	: ± 4.0
Speed	
Tolerance cm ³ /1000 strokes	: 6.0
Check tolerance cm ³ /1000S.	: 9.0

CONTROL LEVER

control lever position degree	: 88.0
tolerance degree	: ± 4.0

RATED SPEED	
rack travel mm	: 12.70
Rated speed rpm	: 1115
Tolerance 1/min	: ± 5
Check speed 1/min	: ± 10

LOW IDLE

control lever position degree	: 71.0
tolerance degree	: ± 4.0

Testing:

Rated speed rpm	: 600
rack travel mm	: 2.00
Tolerance mm	: ± 0.10

rack travel mm	: 2.00
Rated speed rpm	: 630
Tolerance 1/min	: ± 30

SET IDLE AUXILIARY SPRING

rack travel mm	: 2.00
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TORQUE CONTROL

Rated speed rpm	: 1075
rack travel mm	: 13.70
Tolerance mm	: ± 0.05

Rated speed rpm	: 800
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rack travel mm : 14.75
Tolerance mm : \pm 0.10

Rated speed rpm : 1000
rack travel mm : 14.35
Tolerance mm : \pm 0.15

End of test specification sheet

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 291.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000s. : \pm 6.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 290.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000s. : \pm 19.0

LOW IDLE

Rated speed rpm : 600

Rack travel in mm : 2.00
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000s. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.02.98
Test oil : ISO 4113

Combination No. : 0 402 746 633

Injection pump
Pump designation : PES6P120A720RS7366
EP type number : 0 412 726 933

Governor
Governor design. : RQ300/1050PA1344
Governor no. : 0 421 801 821

Cust. part No. :

Customer-spec. information

Customer : IVECO-FRANCE
Motor : 8460.41R.7143
Power kW : 214.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 160
Tolerance l/h : ± 20.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery mark

Check
tolerance °NW : ± 0.40

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.55

Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 234.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.30
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 23.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : 109

Rated speed rpm : 500

Rack travel in mm : 20.00
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050

Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 234.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

rack travel mm : 10.50

Rated speed rpm : 1103

Tolerance 1/min : \pm 8

Check
speed 1/min : \pm 13

rack travel mm : 4.00

Rated speed rpm : 1175

Tolerance 1/min : \pm 15

Check
speed 1/min : \pm 20

rack travel mm : 0.50

Tolerance mm : \pm 0.50

Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 71.0

tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : $>$ 7.80

Testing:

Rated speed rpm : 300

rack travel mm : 6.30

Tolerance mm : \pm 0.10

rack travel mm : 2.00

Rated speed rpm : 395

Tolerance 1/min : \pm 20

TORQUE CONTROL

Rated speed rpm : 1050

rack travel mm : 11.55

Tolerance mm : \pm 0.05

Rated speed rpm : 425
rack travel mm : 12.75
Tolerance mm : \pm 0.10

Rated speed rpm : 500
rack travel mm : 12.75
Tolerance mm : \pm 0.10

Rated speed rpm : 700
rack travel mm : 12.50
Tolerance mm : \pm 0.15

Rated speed rpm : 875
rack travel mm : 11.90
Tolerance mm : \pm 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1200
rack travel mm : 12.75
Tolerance mm : \pm 0.10

Rated speed rpm : 600
Pressure hPa : -
rack travel mm : 9.60
Tolerance mm : \pm 0.20

MEASUREMENT

Rated speed rpm : 600

Pressure hPa : 260
rack travel mm : 10.40
Tolerance mm : \pm 0.20

Pressure hPa : 420
rack travel mm : 12.00
Tolerance mm : \pm 0.05

Start interlock

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 250

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 500
rack travel mm : 12.75
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 245.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 152.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 11.60
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 105.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 6.30
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.03.98
Test oil : ISO 4113

Combination No. : 0 402 746 956

Injection pump
Pump designation : PES6P120A720RS7292
: -1
EP type number : 0 412 726 939

Governor
Governor design. : RQV350...1150PA1074
: -1K
Governor no. : 0 421 815 365

Cust. part No. : 0250740902

Customer-spec. information
Customer : MB-NFZ
Motor : OM366LA
Power KW : 142.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Tolerance l/h : ± 20.0

Test nozzle holder assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery blocking

*NW after s.o.d. : 3.30
Tolerance : ± 0.10
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.20
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 266.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Speed

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 350

Rack travel in mm : 6.00
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Speed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1206
guide sleeve
travel mm : 9.35
Tolerance mm : + 0.15

Rated speed rpm : 350
guide sleeve
travel mm : 1.53
Tolerance mm : + 0.20

Rated speed rpm : 855
guide sleeve
travel mm : 5.56

Tolerance mm : + 0.25

Rated speed rpm : 540
guide sleeve
travel mm : 3.09
Tolerance mm : + 0.25

Rated speed rpm : 1480
guide sleeve
travel mm : 13.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1331

Rack travel in mm : 13.50
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 266.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Speed

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

CONTROL LEVER

control lever
position degree : 109.0
tolerance degree : + 4.0

RATED SPEED
rack travel mm : 13.50
Rated speed rpm : 1195
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1325
Tolerance 1/min : + 15

rack travel mm : 0.70
Tolerance mm : + 0.70

Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 65.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 250

CRT mm min. : $>$ 6.90

Testing:

Rated speed rpm : 350
rack travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 14.20
Tolerance mm : \pm 0.05

Rated speed rpm : 950
rack travel mm : 14.00
Tolerance mm : \pm 0.10

Rated speed rpm : 750
rack travel mm : 13.50
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1150
Pressure hPa : 1500
rack travel mm : 14.20
Tolerance mm : \pm 0.05

Rated speed rpm : 1150
Pressure hPa : -
rack travel mm : 10.50
Tolerance mm : \pm 0.15

MEASUREMENT

Rated speed rpm : 1150

Pressure hPa : 350
rack travel mm : 11.10
Tolerance mm : \pm 0.05

Pressure hPa : 850
rack travel mm : 13.00
Tolerance mm : \pm 0.15

Start interlock

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 240

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 750
rack travel mm : 13.50
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 269.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 134.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Set starting CRT at K-cam.

Rated speed rpm : 100

rack travel mm : 13.50
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 350

Rack travel in mm : 6.00
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.03.98
Test oil : ISO 4113

Combination No. : 0 402 776 817

Injection pump
Pump designation : PES6P130A720RS7318
EP type number : 0 412 736 807

Governor
Governor design. : RSV300...1200P0A581
Governor no. : 0 421 833 438

Cust. part No. :

Customer-spec. information
Customer : IVECO-AIFO
Motor : 8461 SRM 50

TEST BENCH REQUIREMENTS

Inlet line : 4-2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.05
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 10.45
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 316.0

Tolerance
cm³/1000 strokes : ± 1.5

Check tolerance
cm³/1000S. : ± 5.0

Speed

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

Rated speed rpm : 300

Rack travel in mm : 5.30

Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 7.0

Spread
Tolerance

cm³/1000 strokes : 10.0

Check tolerance
cm³/1000S. : 14.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

governor spring
pre-tension
click setting x : 4.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
Aneroid pressure
hPa : 1000

Del. quantity
cm³/1000 strokes : 316.0

Tolerance
cm³/1000 strokes : ± 1.5

Check tolerance
cm³/1000S. : ± 5.0

Spread
Tolerance

cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

CONTROL LEVER

control lever
position degree : 106.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 9.40

Rated speed rpm : 1245

Tolerance 1/min : ± 5

rack travel mm : 4.00

Rated speed rpm : 1290

Tolerance 1/min : ± 15

rack travel mm : 0.85

Tolerance mm : ± 0.55

Rated speed rpm : 1440

LOW IDLE

control lever
position degree : 72.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 300
rack travel mm : 4.80
Tolerance mm : ± 0.10

Testing:

Rated speed rpm : 300
rack travel mm : 5.30
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 395
Tolerance 1/min : ± 30

TORQUE CONTROL

Rated speed rpm : 1200
rack travel mm : 10.45
Tolerance mm : ± 0.05

Rated speed rpm : 550
rack travel mm : 10.50
Tolerance mm : ± 0.10

Rated speed rpm : 350
rack travel mm : 11.90
Tolerance mm : \pm 0.30

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 10.45
Tolerance mm : \pm 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 8.00
Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 500
rack travel mm : 8.80
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 171.5
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 5.0

STARTING FUEL DELIVERY

ESS test: With 24 V solenoid activated,
rack must reach start position in max.
control lever setting.

Rated speed rpm : 100

LOW IDLE

C17

Rated speed rpm : 300

Rack travel in mm : 5.30
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 7.0
Spreed
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.03.98
Test oil : ISO 4113
Combination No. : 0 402 946 010
Injection pump
Pump designation : PES6P120A320RS8028
EP type number : 0 412 926 021
Governor
Governor design. : RQV275...1175PA1101K
Governor no. : 0 421 815 982
Cust. part No. : CCEP 5133 A 66-193

Customer spec. information
Customer : RENAULT V.I.
Motor : MIDR 060226 M51
Power KW : 158.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 2 417 413 078
Inlet press. bar : 2.5
Tolerance bar : + 0.1
Test nozzle holder
assembly : 1 688 901 105
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Test lines : 1 680 750 089
Outside diameter : 8.0

C18

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0
Prestroke mm : 5.00
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10
Rack travel in mm : 13.00
Tolerance mm : + 0.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check
tolerance *NW : + 0.75
Start of delivery mark
*NW after s.o.d. : -0.15
Tolerance : + 0.50
Check
tolerance *NW : + 0.75
Barrel no. : 1
Beginning of delivery difference
betw. rack trav.
mm : 21.00
and maximum rack
travel : 12.30
Difference * CS : 2.00

CRT ZERO POSITION

Rack travel in mm : 13.70
Tolerance mm : \pm 0.05

BASIC SETTING

Rated speed rpm : 1175

Del. quantity
cm³/1000 strokes : 268.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 275

Rack travel in mm : -7.30
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 42.0

Tolerance
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1230
guide sleeve
travel mm : 8.95
Tolerance mm : \pm 0.10

Rated speed rpm : 275
guide sleeve
travel mm : 1.01

Tolerance mm : \pm 0.10

Rated speed rpm : 877
guide sleeve
travel mm : 6.51
Tolerance mm : \pm 0.20

Rated speed rpm : 389
guide sleeve
travel mm : 2.39
Tolerance mm : \pm 0.20

Rated speed rpm : 439
guide sleeve
travel mm : 3.01
Tolerance mm : \pm 0.20

Rated speed rpm : 550
guide sleeve
travel mm : 3.92
Tolerance mm : \pm 0.20

Rated speed rpm : 1650
guide sleeve
travel mm : 13.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1430

Rack travel in mm : 11.20
Tolerance mm : \pm 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1175
Aneroid pressure
hPa : 1600
Del. quantity
cm³/1000 strokes : 268.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 295.0
tolerance degree : \pm 4.0

RATED SPEED
rack travel mm : -1.00
Rated speed rpm : 1240
Tolerance 1/min : \pm 15

rack travel mm : -9.70
Rated speed rpm : 1430
Tolerance 1/min : \pm 5

rack travel mm : -13.20
Tolerance mm : \pm 0.55
Rated speed rpm : 1550

LOW IDLE

control lever
position degree : 245.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : $<$ -6.70

Testing:

Rated speed rpm : 275
rack travel mm : -7.30
Tolerance mm : \pm 0.10

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1175

Rated speed rpm : 650
rack travel mm : -1.55
Tolerance mm : \pm 0.10

Rated speed rpm : 350
rack travel mm : -2.80
Tolerance mm : \pm 0.25

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

C20

Rated speed rpm : 1175
Pressure hPa : 1600

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : -5.40
Tolerance mm : \pm 0.20

MEASUREMENT

Rated speed rpm : 1175

Pressure hPa : 320
rack travel mm : -4.70
Tolerance mm : \pm 0.20

Pressure hPa : 560
rack travel mm : -2.95
Tolerance mm : \pm 0.05

Start interlock

Rated speed rpm : $>$ 175
Rated speed rpm : $<$ 240

Check
speed 1/min : $>$ 155
Check
speed 1/min : $<$ 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1600
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 260.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

rack travel mm : -2.80
Tolerance mm : \pm 0.25

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 148.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 95.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 275

Rack travel in mm : -7.30
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 42.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.03.98
Test oil : ISO 4113

Combination No. : 0 402 946 030

Injection pump
Pump designation : PES6P120A720RS8049
EP type number : 0 412 926 031

Governor
Governor design. : RQ750PA1299
Governor no. : 0 421 801 810

Cust. part No. : 1397781

Customer-spec. information
Customer : SCANIA
Motor : DSC1158A

TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 90
Tolerance l/h : ± 20.0

Test nozzle holde
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.65
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 14.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

Tolerance : ± 0.10
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.15
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 363.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 11.0

Spread

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rack travel in mm : 3.00
Tolerance mm : + 0.20

Del. quantity
cm³/1000 strokes : 30.0

Tolerance
cm³/1000 strokes : + 4.0

Check tolerance
cm³/1000S. : + 6.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 363.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 11.0

Spread

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

CONTROL LEVER

control lever
position degree : 22.0
tolerance degree : + 4.0

control lever
position degree : 83.0
tolerance degree : + 4.0

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750
rack travel mm : 12.10

Rated speed rpm : 778
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 850

Rated speed rpm : 751
rack travel mm : 12.10

Rated speed rpm : 779
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 850

Rated speed rpm : 752
rack travel mm : 12.10

Rated speed rpm : 780
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 850

Rated speed rpm : 753
rack travel mm : 12.10

Rated speed rpm : 781
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 850

Rated speed rpm : 754
rack travel mm : 12.10

Rated speed rpm : 782
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 850

Rated speed rpm : 755
rack travel mm : 12.10

Rated speed rpm : 783
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 850

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.15
Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.15
Tolerance mm : + 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 7.70
Tolerance mm : + 0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 230
rack travel mm : 8.45
Tolerance mm : + 0.25

Pressure hPa : 580
rack travel mm : 10.45
Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 230.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 7.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.03.98
Test oil : ISO 4113
Combination No. : 0 403 466 151AA
Injection pump
Pump designation : PES6MM100/120RS1238
EP type number : 0 413 406 237
Governor
Governor design. : RSV450...1100MM2A367
Governor no. : 0 420 085 250
Cust. part No. : 3284205

Customer spec. information
Customer : CDC
Motor : 6 CT
Power kW : 138.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 2 417 413 093
Inlet press. bar : 2.0
Tolerance bar : ± 0.1
Test nozzle holder
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 014
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0
Prestroke mm : 2.80
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75
Start of delivery blocking
°NW after s.o.d. : 8.00
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75
Barrel no. : 1
Beginning of delivery difference
and maximum rack
travel : 15.00
Difference ° CS : 2.00

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.10
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 130.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Rated speed rpm : 450

Rack travel in mm : 5.15
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 25.5

Tolerance
cm³/1000 strokes : \pm 1.5

Check tolerance
cm³/1000S. : \pm 4.5

Speed

Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3

governor spring
pre-tension
click setting x : 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050

Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 130.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

CONTROL LEVER

control lever

position degree : 94.0

tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 10.10

Rated speed rpm : 1090

Tolerance 1/min : \pm 5

rack travel mm : 6.40

Rated speed rpm : 1175

Tolerance 1/min : \pm 15

rack travel mm : 1.00

Tolerance mm : \pm 0.70

Rated speed rpm : 1350

rack travel mm : 6.40

Rated speed rpm : 1175

Tolerance 1/min : \pm 15

LOW IDLE

control lever

position degree : 78.0

tolerance degree : \pm 4.0

Control lever difference

Grad : 16.0

tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 450
rack travel mm : 4.15
Tolerance mm : \pm 0.05

Testing:

Rated speed rpm : 450
rack travel mm : 5.15
Tolerance mm : \pm 0.05

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 11.10
Tolerance mm : \pm 0.10

Rated speed rpm : 750
rack travel mm : 11.35
Tolerance mm : \pm 0.10

Rated speed rpm : 1000
rack travel mm : 11.15
Tolerance mm : \pm 0.20

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.50
Tolerance mm : \pm 0.20

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 550
rack travel mm : 10.90
Tolerance mm : \pm 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 140.0
Tolerance
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000s. : \pm 5.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000s. : 9.0

rack travel mm : 11.15
Tolerance mm : \pm 0.20

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 121.0
Tolerance
cm³/1000 strokes : \pm 1.0
check tolerance
cm³/1000s. : \pm 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 1.00
Del. quantity
cm³/1000 strokes : 177.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000s. : \pm 13.0

LOW IDLE

Rated speed rpm : 450
Rack travel in mm : 5.15
Tolerance mm : \pm 0.05
Del. quantity
cm³/1000 strokes : 25.5
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000s. : \pm 4.5
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000s. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition :
Test oil : V1
Combination No. : 0 402 746 608FR

Injection pump
Pump designation : 0412726925
EP type number : 0 412 726 925

Governor
Governor design. : PES6P120A320RS7359
Governor no. : 0 421 801 805

Cust. part No. : RENAULT V.I.

Customer spec. information
Motor : CCEP 5157A 66-
Power KW : LKW/BU

TEST BENCH REQUIREMENTS

Inlet line : 250

Test oil inlet
temp. °C : ISO 41
Tolerance °C : 40.0

Inlet press. bar : \pm 2.0

Overflow quantity
min. l/h : 6.0
Tolerance l/h : 220

Test nozzle holder
assembly : B K

Opening pressure
bar : 16889011
Tolerance bar : 20850

Outside diameter : 2.0
x inside diameter : \pm 150

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 2600
Tolerance bar : \pm 10

Prestroke mm : 4.70
Tolerance mm : \pm 0.05
Check
tolerance mm : \pm 0.10

Firing order : 1- 5- 3- 6- 2-
: 4

BASIC SETTING

Tolerance mm : \pm 0.1

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
guide sleeve
travel mm : 2.44
Tolerance mm : \pm 0.2

LOW IDLE

Testing:

Rated speed rpm : 275
Tolerance mm : \pm 0.1

LOW IDLE

Tolerance mm : \pm 0.1

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.03.98
Test oil : ISO 4113
Combination No. : F 000 409 212
Injection pump
Pump designation : PES6A95D410RS2923
EF type number : F 000 400 401
Governor
Governor design. : RGV300...1300AB1326L
Governor no. : F 000 420 302

Cust. part No. : A 028 074 51 02

Customer spec. information
Customer : M38
Motor : OM 366LA/EuroI
Power KW : 150.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.20
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 19.00
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1500

Rack travel in mm : 13.45
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 97.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed

Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 8.0

Rated speed rpm : 300

Rack travel in mm : 6.60

Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 4.5

Speed
Tolerance
cm³/1000 strokes : 5.5

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1500
guide sleeve
travel mm : 9.70
Tolerance mm : \pm 0.05

Rated speed rpm : 300
guide sleeve
travel mm : 1.30
Tolerance mm : \pm 0.25

Rated speed rpm : 500
guide sleeve
travel mm : 2.90
Tolerance mm : \pm 0.25

Rated speed rpm : 750
guide sleeve
travel mm : 4.80
Tolerance mm : \pm 0.10

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1366

Rack travel in mm : 16.50

D04

Tolerance mm : \pm 1.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300

Aneroid pressure
hPa : 900

Del. quantity
cm³/1000 strokes : 97.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 3.0

Speed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 8.0

CONTROL LEVER

control lever
position degree : 113.0
tolerance degree : \pm 4.0

RATED SPEED
rack travel mm : 12.50
Rated speed rpm : 1345
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1520
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1640

LOW IDLE

control lever
position degree : 73.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. : $>$ 9.00

Testing:

Rated speed rpm : 300

rack travel mm : 6.60
Tolerance mm : + 0.10

Rated speed rpm : 355

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 13.45
Tolerance mm : + 0.05

Rated speed rpm : 750
rack travel mm : 13.45
Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 13.50
Tolerance mm : + 0.05

Rated speed rpm : 500
Pressure hPa : -

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 270
rack travel mm : 1.20
Tolerance mm : + 0.10

Pressure hPa : 510
rack travel mm : 2.80
Tolerance mm : + 0.10

Start interlock

Rated speed rpm : > 100
Rated speed rpm : < 210

Check
speed 1/min : > 80
Check
speed 1/min : < 230

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500

Del. quantity
cm³/1000 strokes : 54.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 3.0
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 8.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 14.20
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 108.0
Tolerance
cm³/1000 strokes : + 7.5
Check tolerance
cm³/1000S. : + 10.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 6.60
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 4.5
Speed
Tolerance
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.03.98
Test oil : ISO 4113
Combination No. : 0 400 836 018
Injection pump
Pump designation : PES6A80D410/3RS2527
EP type number : 0 410 886 059
Governor
Governor design. : RQ275/1400AB798DL
Governor no. : 0 420 202 239

Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : F6L912
Power kW : 88.3

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 1.95
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 11.65
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 65.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread

Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 7.0

Rated speed rpm : 275

Rack travel in mm : 8.70

Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 12.0

Tolerance
cm³/1000 strokes : ± 1.5

Check tolerance
cm³/1000S. : ± 3.5

Speed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 650

Rack travel in mm : 16.00
Tolerance mm : ± 0.40

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 65.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 7.0

RATED SPEED

D07

rack travel mm : 10.60
Rated speed rpm : 1453
Tolerance 1/min : ± 8

rack travel mm : 4.00
Rated speed rpm : 1550
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1650

LOW IDLE

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. : > 7.00

Testing:

Rated speed rpm : 275
rack travel mm : 8.70
Tolerance mm : ± 0.05

rack travel mm : 2.00
Rated speed rpm : 450
Tolerance 1/min : ± 20

Rated speed rpm : 600

CRT mm max. : < 1.00

TORQUE CONTROL

Dimension a mm : 0.65
Rated speed rpm : 1400
rack travel mm : 11.65
Tolerance mm : ± 0.05

Rated speed rpm : 650
rack travel mm : 13.10
Tolerance mm : ± 0.10

Rated speed rpm : 810
rack travel mm : 12.70
Tolerance mm : ± 0.10

Rated speed rpm : 1015
rack travel mm : 12.05
Tolerance mm : ± 0.15

FUEL DELIVERY CHARACTERISTICS

rack travel mm : 12.70
Tolerance mm : \pm 0.10

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 17.70
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 100.0
Tolerance
cm³/1000 strokes : \pm 7.5
Check tolerance
cm³/1000S. : \pm 10.0

LOW IDLE

Rated speed rpm : 275
Rack travel in mm : 8.70
Tolerance mm : \pm 0.05
Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 3.5
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.03.98
Test oil : ISO 4113
Combination No. : 0 400 836 045
Injection pump
Pump designation : PES6A95D410/3RS2907
EP type number : 0 410 896 884

Governor
Governor design. : RQV750AB1004L
Governor no. : 0 420 212 093

Cust. part No. : 0423 2212 KY

Customer-spec. information
Customer : KHD-DMI
Motor : BF6L913

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0

D09

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 11.35
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 69.0

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 2.0

Speed

Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S.

: 4.5

Rated speed rpm : 250

Rack travel in mm : 8.50

Tolerance mm : ± 0.10

Del. quantity

cm³/1000 strokes : 11.5

Tolerance

cm³/1000 strokes : ± 3.0

Check tolerance

cm³/1000S. : ± 5.0

Speed

Tolerance

cm³/1000 strokes : 2.5

Check tolerance

cm³/1000S. : 4.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 752

guide sleeve

travel mm : 3.49

Tolerance mm : ± 0.15

Rated speed rpm : 530

guide sleeve

travel mm : -6.78

Tolerance mm : ± 0.25

Rated speed rpm : 880

guide sleeve

travel mm : 17.75

Tolerance mm : ± 0.25

Rated speed rpm : 823

guide sleeve

travel mm : 10.00

Tolerance mm : ± 0.25

Rated speed rpm : 880

guide sleeve

travel mm : 11.50

Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever

position degree : - 1

Rated speed rpm : 800

Rack travel in mm : 11.00

Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 750

Aneroid pressure

hPa : -

Del. quantity

cm³/1000 strokes : 69.0

Tolerance

cm³/1000 strokes : ± 0.5

Check tolerance

cm³/1000S. : ± 2.0

Speed

Tolerance

cm³/1000 strokes : 2.5

Check tolerance

cm³/1000S. : 4.5

CONTROL LEVER

control lever

position degree : 88.0

tolerance degree : ± 4.0

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 767

rack travel mm : 10.35

Rated speed rpm : 795

Tolerance 1/min : ± 5

rack travel mm : 4.00

rack travel mm : 0.50

Tolerance mm : ± 0.50

Rated speed rpm : 815

Rated speed rpm : 768

rack travel mm : 10.35

Rated speed rpm : 796

Tolerance 1/min : ± 5

rack travel mm : 4.00

rack travel mm : 0.50

Tolerance mm : ± 0.50

Rated speed rpm : 769

rack travel mm : 10.35

Rated speed rpm : 797
Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : \pm 0.50

Rated speed rpm : 770
rack travel mm : 10.35

Rated speed rpm : 798
Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : \pm 0.50

Rated speed rpm : 771
rack travel mm : 10.35

Rated speed rpm : 799
Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : \pm 0.50

Rated speed rpm : 772
rack travel mm : 10.35

Rated speed rpm : 800
Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : \pm 0.50

LOW IDLE

Testing:

Rated speed rpm : 250
rack travel mm : 8.50
Tolerance mm : \pm 0.10

TORQUE CONTROL

Rated speed rpm : 750
rack travel mm : 11.35
Tolerance mm : \pm 0.05

Start interlock

Rated speed rpm : $>$ 100

Rated speed rpm : $<$ 660

Check
speed 1/min : $>$ 80

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : \pm 0.75
Del. quantity
cm³/1000 strokes : 125.0
Tolerance
cm³/1000 strokes : \pm 7.5
Check tolerance
cm³/1000S. : \pm 10.0

LOW IDLE

Rated speed rpm : 250
Rack travel in mm : 8.50
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 11.5
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Speed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 4.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.03.98
Test oil : ISO 4113

Combination No. : 0 400 836 046

Injection pump
Pump designation : PES6A95D410/3RS2907
EP type number : 0 410 896 884

Governor
Governor design. : RQ300/1250AB935-2L
Governor no. : 0 420 200 107

Cust. part No. : 0423 2162 KY

Customer spec. information
Customer : KHD-DMI
Motor : F6L913-NEW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0

D12

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.35
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 76.0

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 2.0

Speed

Tolerance
cm3/1000 strokes : 2.5

Check tolerance
cm3/1000S. : 4.0

Rated speed rpm : 325

Rack travel in mm : 8.50
Tolerance mm : ± 0.10

Del. quantity
cm3/1000 strokes : 11.5

Tolerance
cm3/1000 strokes : ± 1.5

Check tolerance
cm3/1000S. : ± 3.5

Spread
Tolerance
cm3/1000 strokes : 4.0

Check tolerance
cm3/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1307
guide sleeve
travel mm : 6.75
Tolerance mm : ± 0.15

Rated speed rpm : 300
guide sleeve
travel mm : 1.26
Tolerance mm : ± 0.20

Rated speed rpm : 1250
guide sleeve
travel mm : 6.40
Tolerance mm : ± 0.10

Rated speed rpm : 950
guide sleeve
travel mm : 6.10
Tolerance mm : ± 0.10

Rated speed rpm : 617
guide sleeve
travel mm : 4.68
Tolerance mm : ± 0.10

Rated speed rpm : 740
guide sleeve
travel mm : 6.00

Tolerance mm : ± 0.10

Rated speed rpm : 1480
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

Rated speed rpm : 1056
guide sleeve
travel mm : 6.30
Tolerance mm : ± 0.10

GUIDE SLEEVE POSITION

control lever
position degree : 109
Rated speed rpm : 800

Rack travel in mm : 20.00
Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
Aneroid pressure
hPa : -
Del. quantity
cm3/1000 strokes : 76.0
Tolerance
cm3/1000 strokes : ± 0.5
Check tolerance
cm3/1000S. : ± 2.0
Spread
Tolerance
cm3/1000 strokes : 2.5
Check tolerance
cm3/1000S. : 4.0

RATED SPEED
rack travel mm : 10.30
Rated speed rpm : 1303
Tolerance 1/min : ± 8

rack travel mm : 4.00
Rated speed rpm : 1380
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1500

LOW IDLE

Setting point w/out bumper spring

Rated speed rpm : 200

CRT min. : > 9.00

Testing:

Rated speed rpm : 325
rack travel mm : 8.50
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 635
Tolerance 1/min : \pm 20

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 11.35
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 11.65
Tolerance mm : \pm 0.05

Start interlock

Rated speed rpm : > 100
Rated speed rpm : < 220

Check
speed 1/min : > 80

Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -

Rated speed rpm : 750

Del. quantity
cm³/1000 strokes : 70.0

Tolerance
cm³/1000 strokes : \pm 1.5

Check tolerance
cm³/1000S. : \pm 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 1.00

Del. quantity

cm³/1000 strokes : 125.0

Tolerance

cm³/1000 strokes : \pm 7.5

Check tolerance

cm³/1000S. : \pm 10.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm : 8.50

Tolerance mm : \pm 0.10

Del. quantity

cm³/1000 strokes : 11.5

Tolerance

cm³/1000 strokes : \pm 1.5

Check tolerance

cm³/1000S. : \pm 3.5

Spread

Tolerance

cm³/1000 strokes : 4.0

Check tolerance

cm³/1000S. : 6.0

End of test specification sheet

Note remarks

Edition : 14.03.98
 Test oil : ISO 4113
 Combination No. : 0 400 865 019
 Injection pump
 Pump designation : PES5A80D410/3RS2526
 EP type number : 0 410 885 004

Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : F5L912
Power KW : 62.0

Inlet Line : 1.3

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0 681 343 009

Opening pressure : 173.5 bar
Tolerance bar : \pm 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

```
x inside diameter : 2.0
x length mm      : 600
```

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values

Test pressure bar : 26.0
Tolerance bar : + 1.0

```
Prestroke name      : 1.95
Tolerance name      : + 0.05
Check
tolerance name      : + 0.10
```

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 3- 5- 4- 2

Phasing : 0-72-144-216-288
Tolerance : + 0.50
Check
tolerance *NW : + 0.75

Rated speed rpm : 1130

Rack travel in mm : 12.65
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 65.5

Tolerance
cm³/1000 strokes : \pm 0.5

Check tolerance
cm3/1000s. : + 2.0

Speed _____

Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 4.0

Rated speed rpm : 325

Rack travel in mm : 9.00
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 12.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 4.5

Speed
Tolerance
cm³/1000 strokes : 2.0

Check tolerance
cm³/1000S. : 3.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 300

Rack travel in mm : 0.50
Tolerance mm : + 0.20

governor spring
pre-tension
click setting x : 4.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1130
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 65.5

Tolerance
cm³/1000 strokes : + 0.5

Check tolerance
cm³/1000S. : + 2.0

Speed
Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 4.0

CONTROL LEVER

control lever
position degree : 104.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.60
Rated speed rpm : 1175

Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1230

Tolerance 1/min : + 15

rack travel mm : 0.85
Tolerance mm : + 0.55

Rated speed rpm : 1350

rack travel mm : 4.00
Rated speed rpm : 1235

Tolerance 1/min : + 15

LOW IDLE

control lever
position degree : 69.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
rack travel mm : 8.50

Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 19.50

Testing:

Rated speed rpm : 325
rack travel mm : 9.00

Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 500

Tolerance 1/min : + 30

TORQUE CONTROL

Dimension a mm : 0.70
Rated speed rpm : 1130

rack travel mm : 12.65
Tolerance mm : \pm 0.05

Rated speed rpm : 500
rack travel mm : 13.35
Tolerance mm : \pm 0.05

Rated speed rpm : 910
rack travel mm : 13.00
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

rack travel mm : 13.00
Tolerance mm : \pm 0.10

LOW IDLE

Rated speed rpm : 325

Rack travel in mm : 9.00
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 4.5

Speed
Tolerance
cm³/1000 strokes : 2.0
Check tolerance
cm³/1000S. : 3.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.03.98
Test oil : ISO 4113
Combination No. : 0 400 866 069
Injection pump
Pump designation : PES6A900320/3RS2464
EP type number : 0 410 896 029
Governor
Governor design. : RSV300...1000A7C529R
Governor no. : 0 420 233 191

Cust. part No. :

Customer-spec. information
Customer : MWM

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 419 922 198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 0 681 343 009_
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 014
Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

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REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 2.20
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 980
Rack travel in mm : 10.30
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 68.0
Tolerance
cm³/1000 strokes : ± 0.5
Check tolerance
cm³/1000S. : ± 2.5
Speed
Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 4.5

Rated speed rpm : 300
Rack travel in mm : 7.50
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 10.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800
Rack travel in mm : 0.65
Tolerance mm : + 0.35

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 980
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 68.0
Tolerance
cm³/1000 strokes : + 0.5
Check tolerance
cm³/1000S. : + 2.5
Spread
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 4.5

CONTROL LEVER

control lever
position degree : 65.0
tolerance degree : + 4.0

RATED SPEED
rack travel mm : 9.30
Rated speed rpm : 1025
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1055
Tolerance 1/min : + 15

rack travel mm : 1.00
Tolerance mm : + 0.70
Rated speed rpm : 1200

rack travel mm : 4.00

LOW IDLE

control lever
position degree : 28.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 300
rack travel mm : 8.00
Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 19.50

Testing:

Rated speed rpm : 300
rack travel mm : 7.50
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 430
Tolerance 1/min : + 30

Rated speed rpm : 450

CRT mm max. : < 1.00

TORQUE CONTROL

Rated speed rpm : 980
rack travel mm : 10.30
Tolerance mm : + 0.05

Start interlock

Rated speed rpm : > 100

Check
speed 1/min : > 80

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : \pm 0.75
Del. quantity
cm³/1000 strokes : 118.0
Tolerance
cm³/1000 strokes : \pm 7.5
Check tolerance
cm³/1000s. : \pm 10.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 7.50
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 10.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000s. : 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.03.98
Test oil : ISO 4113
Combination No. : 0 400 866 070
Injection pump
Pump designation : PES6A90D320/3RS2464
EP type number : 0 410 896 029
Governor
Governor design. : RSV325...1500A2C529R
Governor no. : 0 420 233 189

Cust. part No. :

Customer spec. information
Customer : MWM

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : + 1.5
Test lines : 0 680 750 014
Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0
Prestroke mm : 2.20
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10
Rack travel in mm : 10.50
Tolerance mm : + 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check
tolerance °NW : + 0.75

BASIC SETTING

Del. quantity
cm³/1000 strokes : 68.0
Tolerance
cm³/1000 strokes : + 0.5
Check tolerance
cm³/1000S. : + 2.5
Speed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 4.5
Rated speed rpm : 325

Rack travel in mm : 7.00
 Tolerance mm : \pm 0.10
 Del. quantity
 cm³/1000 strokes : 10.5
 Tolerance
 cm³/1000 strokes : \pm 1.5
 Check tolerance
 cm³/1000S. : \pm 3.5
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 4.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 3
 Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : \pm 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1480
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 68.0
 Tolerance
 cm³/1000 strokes : \pm 0.5
 Check tolerance
 cm³/1000S. : \pm 2.5
 Spreed
 Tolerance
 cm³/1000 strokes : 3.0
 Check tolerance
 cm³/1000S. : 4.5

CONTROL LEVER

control lever
 position degree : 108.0
 tolerance degree : \pm 4.0

RATED SPEED
 rack travel mm : 8.00
 Rated speed rpm : 1525

Tolerance 1/min : \pm 5

rack travel mm : 4.00
 Rated speed rpm : 1560
 Tolerance 1/min : \pm 15

rack travel mm : 0.85
 Tolerance mm : \pm 0.55
 Rated speed rpm : 1700

rack travel mm : 4.00
 Rated speed rpm : 1575
 Tolerance 1/min : \pm 15

LOW IDLE

control lever
 position degree : 70.0
 tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
 rack travel mm : 7.50
 Tolerance mm : \pm 0.10

Rated speed rpm : 100

CRT mm min. : > 19.50

Testing:

Rated speed rpm : 325
 rack travel mm : 7.00
 Tolerance mm : \pm 0.10

rack travel mm : 2.00
 Rated speed rpm : 480
 Tolerance 1/min : \pm 30

Start interlock

Rated speed rpm : > 100

Check
 speed 1/min : > 80

STARTING FUEL DELIVERY

Rated speed rpm : 100

rack travel mm : 20.25
Tolerance mm : \pm 0.75
Del. quantity
cm³/1000 strokes : 118.0
Tolerance
cm³/1000 strokes : \pm 8.0
Check tolerance
cm³/1000S. : \pm 11.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm : 7.00
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 10.5
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 3.5
Speed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 4.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.03.98
Test oil : ISO 4113

Combination No. : 0 400 866 078

Injection pump
Pump designation : PES6A85D410/3RS2415
EP type number : 0 410 886 915

Governor
Governor design. : RSV325...900A7C720L
Governor no. : 0 420 232 339

Cust. part No. :

Customer spec. information
Customer : KHD
Motor : 3F6L913

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198_

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0

D24

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 1.95
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 11.85
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 68.5

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 2.5

Speed

Tolerance
cm³/1000 strokes : 3.0

Check tolerance cm ³ /1000S.	:	4.5
--	---	-----

Rated speed rpm	:	325
Rack travel in mm	:	8.10
Tolerance mm	:	+ 0.10
Del. quantity cm ³ /1000 strokes	:	12.0
Tolerance cm ³ /1000 strokes	:	+ 3.0
Check tolerance cm ³ /1000S.	:	+ 5.0
Spread Tolerance cm ³ /1000 strokes	:	2.0
Check tolerance cm ³ /1000S.	:	4.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree	:	- 3
Rack travel in mm	:	0.50
Tolerance mm	:	+ 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	900
Aneroid pressure hPa	:	-
Del. quantity cm ³ /1000 strokes	:	68.5
Tolerance cm ³ /1000 strokes	:	+ 0.5
Check tolerance cm ³ /1000S.	:	+ 2.5
Spread Tolerance cm ³ /1000 strokes	:	3.0
Check tolerance cm ³ /1000S.	:	4.5

CONTROL LEVER

control lever position degree	:	107.0
tolerance degree	:	+ 4.0

RATED SPEED		
rack travel mm	:	10.80
Rated speed rpm	:	945
Tolerance 1/min	:	+ 5
rack travel mm	:	0.85
Tolerance mm	:	+ 0.55
Rated speed rpm	:	1100

rack travel mm	:	4.00
Rated speed rpm	:	995
Tolerance 1/min	:	+ 15

LOW IDLE

control lever position degree	:	75.0
tolerance degree	:	+ 4.0

Setting point w/out bumper spring

Rated speed rpm	:	325
rack travel mm	:	7.60
Tolerance mm	:	+ 0.10

Testing:

Rated speed rpm	:	325
rack travel mm	:	8.10
Tolerance mm	:	+ 0.10

TORQUE CONTROL

Rated speed rpm	:	900
rack travel mm	:	11.85
Tolerance mm	:	+ 0.05

Rated speed rpm	:	600
rack travel mm	:	12.35
Tolerance mm	:	+ 0.05

Rated speed rpm	:	800
rack travel mm	:	12.15
Tolerance mm	:	+ 0.15

FUEL DELIVERY CHARACTERISTICS

rack travel mm : 12.15
Tolerance mm : \pm 0.15

LOW IDLE

Rated speed rpm : 325
Rack travel in mm : 8.10
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 2.0
Check tolerance
cm³/1000S. : 4.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.03.98
Test oil : ISO 4113
Combination No. : 0 400 873 036
Injection pump
Pump designation : PES3A90D320RS2626
EP type number : 0 410 883 002
Governor
Governor design. : RSV300...975A1C2171
: -5R
Governor no. : 0 420 233 185

Cust. part No. :

Customer spec. information

Customer : EICHER
Motor : EDL 3/8.3/9.3
Power kW : 41.0

TEST BENCH REQUIREMENTS

Inlet line : 1.0

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.25
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 3- 2

Phasing : 0-120-240
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 975

Rack travel in mm : 11.40
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 77.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed

Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 8.0

Rated speed rpm : 300

Rack travel in mm : 8.00
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.5

Spread
Tolerance
cm³/1000 strokes : 5.5

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : FREE
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

governor spring
pre-tension
click setting x : 4.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 975
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 77.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 8.0

CONTROL LEVER

control lever
position degree : 102.0
tolerance degree : ± 4.0

RATED SPEED
rack travel mm : 10.40

Rated speed rpm : 1020
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1065

Tolerance 1/min : ± 15

rack travel mm : 0.85
Tolerance mm : ± 0.55

Rated speed rpm : 1230

rack travel mm : 4.00
Rated speed rpm : 1080

LOW IDLE

control lever
position degree : 74.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 300
rack travel mm : 7.50

Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 19.50

Testing:

Rated speed rpm : 300
rack travel mm : 8.00

Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 430

Tolerance 1/min : ± 30

TORQUE CONTROL

Rated speed rpm : 975
rack travel mm : 11.40

Tolerance mm : ± 0.05

Rated speed rpm : 500
rack travel mm : 11.45
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 70.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : \pm 0.75
Del. quantity
cm³/1000 strokes : 138.0
Tolerance
cm³/1000 strokes : \pm 7.5
Check tolerance
cm³/1000S. : \pm 10.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 8.00
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Speed
Tolerance
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.03.98
Test oil : ISO 4113
Combination No. : F 002 A0Z 011
Injection pump
Pump designation : PES6A95D320/3RS2881
EP type number : 9 410 037 215
Governor
Governor design. : RSV475...1100A0C888R
Governor no. : F 002 A20 212

Cust. part No. : 3930164

Customer spec. information
Customer : CUMMINS
Motor : 6BTA
Power kW : 124.0

TEST BENCH REQUIREMENTS

Inlet Line : 3.2
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 2 417 413 093
Inlet press. bar : 2.0
Test nozzle holder
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 014
Outside diameter : 6.0

E02

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0
Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75
Start of delivery blocking
°NW after s.o.d. : 7.50
Tolerance : ± 0.10
Check
tolerance °NW : ± 0.29
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050
Rack travel in mm : 13.65

Tolerance mm	: ± 0.05
<hr/>	
Del. quantity cm ³ /1000 strokes	: 116.0
<hr/>	
Tolerance cm ³ /1000 strokes	: ± 1.0
<hr/>	
Check tolerance cm ³ /1000S.	: ± 3.0
<hr/>	
Speed	
<hr/>	
Tolerance cm ³ /1000 strokes	: 4.0
<hr/>	
Check tolerance cm ³ /1000S.	: 6.5
<hr/>	

Rated speed rpm	: 475
Rack travel in mm	: 5.95
Tolerance mm	: ± 0.10
Del. quantity cm ³ /1000 strokes	: 20.6
Tolerance cm ³ /1000 strokes	: ± 2.0
Check tolerance cm ³ /1000S.	: ± 4.5
Speed	
Tolerance cm ³ /1000 strokes	: 6.0
Check tolerance cm ³ /1000S.	: 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree	: FREE
Rated speed rpm	: 800
<hr/>	
Rack travel in mm	: 0.50
Tolerance mm	: ± 0.20
<hr/>	
governor spring pre-tension click setting x	: 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1050
Aneroid pressure hPa	: 1200
Del. quantity cm ³ /1000 strokes	: 116.0
Tolerance cm ³ /1000 strokes	: ± 1.0
Check tolerance cm ³ /1000S.	: ± 3.0
Speed	
Tolerance cm ³ /1000 strokes	: 4.0
Check tolerance cm ³ /1000S.	: 6.5

CONTROL LEVER

control lever position degree	: 94.0
tolerance degree	: ± 4.0

RATED SPEED	
rack travel mm	: 12.70
Rated speed rpm	: 1115
Tolerance 1/min	: ± 5

rack travel mm	: 4.00
Rated speed rpm	: 1185
Tolerance 1/min	: ± 15

rack travel mm	: 0.85
Tolerance mm	: ± 0.55
Rated speed rpm	: 1300

rack travel mm	: 4.00
Rated speed rpm	: 1190
Tolerance 1/min	: ± 15

LOW IDLE

control lever position degree	: 75.0
tolerance degree	: ± 4.0

Control lever difference	
Grad	: 19.0
tolerance degree	: ± 6.0

Setting point w/out bumper spring

Rated speed rpm	: 475
rack travel mm	: 4.95
Tolerance mm	: ± 0.10

Rated speed rpm : 100
CRT min. : > 19.00

Testing:

Rated speed rpm : 475
rack travel mm : 5.95
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 550
Tolerance 1/min : \pm 30

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 13.65
Tolerance mm : \pm 0.05

Rated speed rpm : 750

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.70
Tolerance mm : \pm 0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 550
rack travel mm : 12.50
Tolerance mm : \pm 0.20

Pressure hPa : 400
rack travel mm : 11.85
Tolerance mm : \pm 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 120.0

Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 83.9
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 121.5
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 15.0

LOW IDLE

Rated speed rpm : 475

Rack travel in mm : 5.95
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 20.6
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.12.97
Test oil : ISO 4113
Combination No. : 0 402 776 819
Injection pump
Pump designation : PES6P120A320LS7285
EP type number : 0 412 726 892
Governor
Governor design. : RSV350...1100P1A601
Governor no. : 0 421 833 482

Cust. part No. : 1823388C91

Customer spec. information
Customer : NAVISTAR
Motor : DTA-531
Power kW : 222.0

TEST BENCH REQUIREMENTS

Inlet line : 2.4
Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 2 417 413 076
Inlet press. bar : 2.8
Tolerance bar : + 0.1
Test nozzle holde
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Test lines : 1 680 750 008
Outside diameter : 6.0

E05

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : + 1.0
Prestroke mm : 2.90
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10
Rack travel in mm : 10.50
Tolerance mm : + 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check
tolerance °NW : + 0.75
Start of delivery blocking
Tolerance : + 0.50
Check
tolerance °NW : + 0.75
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100
Rack travel in mm : 13.25
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 216.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 350

Rack travel in mm : 5.50
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 33.5

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 5.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

governor spring
pre-tension
click setting x : 3.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100

Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 216.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 103.0
tolerance degree : ± 4.0

RATED SPEED
rack travel mm : 12.20
Rated speed rpm : 1150
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1200
Tolerance 1/min : ± 5

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1250

rack travel mm : 4.00
Rated speed rpm : 1205
Tolerance 1/min : ± 5

LOW IDLE

control lever
position degree : 72.5
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. : > 19.00

Testing:

Rated speed rpm : 350
rack travel mm : 5.50
Tolerance mm : ± 0.10

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 13.25
Tolerance mm : \pm 0.05

**ANEROID/ALTITUDE
COMPENSATOR TEST****SETTING**

Rated speed rpm : 400
Pressure hPa : 1500

Rated speed rpm : 400
Pressure hPa : -
rack travel mm : 8.30
Tolerance mm : \pm 0.20

MEASUREMENT

Rated speed rpm : 400

Pressure hPa : 1035
rack travel mm : 11.90
Tolerance mm : \pm 0.20

Pressure hPa : 450
rack travel mm : 9.30
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 106.5
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 1.00
Del. quantity
cm³/1000 strokes : 167.5
Tolerance
cm³/1000 strokes : \pm 20.0

Check tolerance
cm³/1000S. : \pm 25.0

LOW IDLE

Rated speed rpm : 350

Rack travel in mm : 5.50
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 33.5
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.03.98
Test oil : ISO 4113
Combination No. : F 002 A0Z 039
Injection pump
Pump designation : PES6A95D320/3RS2881
EP type number : 9 410 037 215
Governor
Governor design. : RSV500...1100A0C919R
Governor no. : F 002 A20 229

Cust. part No. : 3932479

Customer spec. information
Customer : CDC
Motor : 68T
Power KW : 101.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery blocking

*NW after s.o.d. : 7.00
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.35

Tolerance mm	: + 0.05
<hr/>	
Del. quantity cm ³ /1000 strokes	: 95.0
<hr/>	
Tolerance cm ³ /1000 strokes	: + 1.0
<hr/>	
Check tolerance cm ³ /1000S.	: + 3.0
<hr/>	
Speed	
<hr/>	
Tolerance cm ³ /1000 strokes	: 3.5
<hr/>	
Check tolerance cm ³ /1000S.	: 6.0
<hr/>	

Rated speed rpm	: 500
<hr/>	
Rack travel in mm	: 5.10
Tolerance mm	: + 0.10
Del. quantity cm ³ /1000 strokes	: 18.5
Tolerance cm ³ /1000 strokes	: + 2.0
Check tolerance cm ³ /1000S.	: + 4.5
Speed	
Tolerance cm ³ /1000 strokes	: 3.5
Check tolerance cm ³ /1000S.	: 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree	: - 3
Rated speed rpm	: 800
<hr/>	
Rack travel in mm	: 0.50
Tolerance mm	: + 0.20
<hr/>	
governor spring pre-tension click setting x	: 1.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure hPa	: 900
Del. quantity cm ³ /1000 strokes	: 95.0
Tolerance cm ³ /1000 strokes	: + 1.0
Check tolerance cm ³ /1000S.	: + 3.0
Speed	
Tolerance cm ³ /1000 strokes	: 3.5
Check tolerance cm ³ /1000S.	: 6.0

CONTROL LEVER

control lever position degree	: 92.0
tolerance degree	: + 4.0

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RATED SPEED	
rack travel mm	: 10.30
Rated speed rpm	: 1170
Tolerance 1/min	: + 5
Check speed 1/min	: + 10

rack travel mm	: 5.40
Rated speed rpm	: 1235
Tolerance 1/min	: + 5
Check speed 1/min	: + 10

rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1350

rack travel mm	: 5.40
Rated speed rpm	: 1235
Tolerance 1/min	: + 15
Check speed 1/min	: + 20

LOW IDLE

control lever position degree	: 75.0
tolerance degree	: + 4.0

<hr/>	
Control lever difference	
Grad	: 17.0
tolerance degree	: + 6.0

Setting point w/out bumper spring

Rated speed rpm : 500
rack travel mm : 4.60
Tolerance mm : \pm 0.10

Rated speed rpm : 100

CRT mm min. : $>$ 19.00

Testing:

Rated speed rpm : 500
rack travel mm : 5.10
Tolerance mm : \pm 0.10

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 11.35
Tolerance mm : \pm 0.05

Rated speed rpm : 800
rack travel mm : 12.15
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 800
Pressure hPa : 900

Rated speed rpm : 800
Pressure hPa : -
rack travel mm : 11.40
Tolerance mm : \pm 0.20

MEASUREMENT

Rated speed rpm : 800
Pressure hPa : 650
rack travel mm : 11.65
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 107.5

Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 97.5
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 120.5
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 15.0

LOW IDLE

Rated speed rpm : 500
Rack travel in mm : 5.10
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 18.5
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spread
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.03.98
Test oil : ISO 4113
Combination No. : F 002 A0Z 043
Injection pump
Pump designation : PES6A95D320/3RS2881
EP type number : 9 410 037 215
Governor
Governor design. : RSV500...1100A0C925R
Governor no. : F 002 A20 233

Cust. part No. : 3932478

Customer spec. information
Customer : CDC
Motor : 6BT
Power KW : 90.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Start of delivery blocking

*NW after s.o.d. : 7.00
Tolerance : ± 0.50
Check
tolerance *NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 10.85
Tolerance mm : ± 0.05

Del. quantity cm ³ /1000 strokes	: 86.0
Tolerance cm ³ /1000 strokes	: ± 1.0
Check tolerance cm ³ /1000S.	: ± 3.0
Spread	
Tolerance cm ³ /1000 strokes	: 3.5
Check tolerance cm ³ /1000S.	: 6.0

Rated speed rpm	: 500
Rack travel in mm	: 5.40
Tolerance mm	: ± 0.10
Del. quantity cm ³ /1000 strokes	: 18.5
Tolerance cm ³ /1000 strokes	: ± 2.0
Check tolerance cm ³ /1000S.	: ± 4.5
Spread	
Tolerance cm ³ /1000 strokes	: 3.5
Check tolerance cm ³ /1000S.	: 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree	: - 3
Rated speed rpm	: 800
Rack travel in mm	: 0.50
Tolerance mm	: ± 0.20
governor spring pre-tension click setting x	: 3.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
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E12

Aneroid pressure hPa	: 900
Del. quantity cm ³ /1000 strokes	: 86.0
Tolerance cm ³ /1000 strokes	: ± 1.0
Check tolerance cm ³ /1000S.	: ± 3.0
Spread	
Tolerance cm ³ /1000 strokes	: 3.5
Check tolerance cm ³ /1000S.	: 6.0

CONTROL LEVER

control lever position degree	: 94.0
tolerance degree	: ± 4.0

RATED SPEED	
rack travel mm	: 9.80
Rated speed rpm	: 1165
Tolerance 1/min	: ± 5
Check speed 1/min	: ± 10

rack travel mm	: 6.00
Rated speed rpm	: 1220
Tolerance 1/min	: ± 5
Check speed 1/min	: ± 10

rack travel mm	: 0.85
Tolerance mm	: ± 0.55
Rated speed rpm	: 1350

rack travel mm	: 6.00
Rated speed rpm	: 1225
Tolerance 1/min	: ± 15
Check speed 1/min	: ± 20

LOW IDLE

control lever position degree	: 80.0
tolerance degree	: ± 4.0

Control lever difference Grad	: 14.0
tolerance degree	: ± 6.0

Setting point w/out bumper spring

Rated speed rpm : 500
rack travel mm : 4.90
Tolerance mm : \pm 0.10

Rated speed rpm : 100
CRT mm min. : $>$ 19.00

Testing:

Rated speed rpm : 500
rack travel mm : 5.40
Tolerance mm : \pm 0.10

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 10.85
Tolerance mm : \pm 0.05

Rated speed rpm : 800
rack travel mm : 11.55
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 800
Pressure hPa : -

MEASUREMENT

Pressure hPa : 800
rack travel mm : 11.05
Tolerance mm : \pm 0.30

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 96.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 120.5
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 15.0

LOW IDLE

Rated speed rpm : 500
Rack travel in mm : 5.40
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 18.5
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.03.98
Test oil : ISO 4113

Combination No. : F 002 A0Z 069

Injection pump
Pump designation : PES6A95D320/3RS2881
EP type number : 9 410 037 215

Governor
Governor design. : RSV500...1100A2C947R
Governor no. : F 002 A20 248

Cust. part No. : 3933623

Customer spec. information

Customer : CDC
Motor : 6BTA
Power kW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

E14

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery blocking

*NW after s.o.d. : 8.50
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.00

Tolerance mm : \pm 0.05

 Del. quantity
 cm³/1000 strokes : 109.5

 Tolerance
 cm³/1000 strokes : \pm 1.0

 Check tolerance
 cm³/1000S. : \pm 3.0

 Spread

 Tolerance
 cm³/1000 strokes : 3.5

 Check tolerance
 cm³/1000S. : 6.0

Rated speed rpm : 500

 Rack travel in mm : 5.50
 Tolerance mm : \pm 0.10
 Del. quantity
 cm³/1000 strokes : 21.5
 Tolerance
 cm³/1000 strokes : \pm 2.0
 Check tolerance
 cm³/1000S. : \pm 4.5
 Spread
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 3
 Rated speed rpm : 800

 Rack travel in mm : 0.50
 Tolerance mm : \pm 0.20

 governor spring
 pre-tension
 click setting x : 3.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
 Aneroid pressure
 hPa : 1400
 Del. quantity
 cm³/1000 strokes : 109.5
 Tolerance
 cm³/1000 strokes : \pm 1.0
 Check tolerance
 cm³/1000S. : \pm 3.0
 Spread
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 6.0

CONTROL LEVER

control lever
 position degree : 98.0
 tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 12.00
 Rated speed rpm : 1155
 Tolerance 1/min : \pm 5
 Check
 speed 1/min : \pm 10

rack travel mm : 4.00
 Rated speed rpm : 1245
 Tolerance 1/min : \pm 5
 Check
 speed 1/min : \pm 10

rack travel mm : 0.85
 Tolerance mm : \pm 0.55
 Rated speed rpm : 1400

rack travel mm : 4.00
 Rated speed rpm : 1245
 Tolerance 1/min : \pm 15
 Check
 speed 1/min : \pm 20

LOW IDLE

control lever
 position degree : 78.0
 tolerance degree : \pm 4.0

Control lever difference
 Grad : 20.0
 tolerance degree : \pm 6.0

Setting point w/out bumper spring

Rated speed rpm : 500
rack travel mm : 5.00
Tolerance mm : \pm 0.10

Rated speed rpm : 100

CRT mm min. : $>$ 19.00

Testing:

Rated speed rpm : 500
rack travel mm : 5.50
Tolerance mm : \pm 0.10

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 13.00
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 14.65
Tolerance mm : \pm 0.10

Rated speed rpm : 1000
rack travel mm : 13.80
Tolerance mm : \pm 0.20

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1400

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.60
Tolerance mm : \pm 0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 800
rack travel mm : 13.50
Tolerance mm : \pm 0.20

Pressure hPa : 600
rack travel mm : 12.00
Tolerance mm : \pm 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1400
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 132.5
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

rack travel mm : 13.80
Tolerance mm : \pm 0.20

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 82.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 121.5
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 15.0

LOW IDLE

Rated speed rpm : 500
Rack travel in mm : 5.50
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 21.5
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Speed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
ca3/1000s. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.01.95
Test oil : ISO 4113
Combination No. : 0 401 646 003
Injection pump
Pump designation : PES6R120/720LS1505
: -1
EP type number : 0 411 626 005
Governor
Governor design. : RQV300...1100R3K
Governor no. : 0 421 415 004

Cust. part No. : 51.11103-7393

Customer spec. information
Customer : MAN
Motor : D2866LE401
Power KW : 440.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.45
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 12.00
Tolerance mm : ± 0.50

Firing order : 6- 2- 4- 1- 5-
: 3

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 15.30
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 385.0

Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000S.	: + 4.0
Spread	
Tolerance cm3/1000 strokes	: 6.0
Check tolerance cm3/1000S.	: 10.0

Rated speed rpm	: 325
Rack travel in mm	: 5.10
Tolerance mm	: + 0.10
Del. quantity cm3/1000 strokes	: 20.0
Tolerance cm3/1000 strokes	: + 3.0
Check tolerance cm3/1000S.	: + 6.0
Spread	
Tolerance cm3/1000 strokes	: 10.0
Check tolerance cm3/1000S.	: 14.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 1164
guide sleeve travel mm	: 10.04
Tolerance mm	: + 0.25
Rated speed rpm	: 325
guide sleeve travel mm	: 2.12
Tolerance mm	: + 0.25
Rated speed rpm	: 826
guide sleeve travel mm	: 6.86
Tolerance mm	: + 0.25
Rated speed rpm	: 338
guide sleeve travel mm	: 2.28
Tolerance mm	: + 0.25
Rated speed rpm	: 388

guide sleeve travel mm	: 2.90
Tolerance mm	: + 0.25
Rated speed rpm	: 510
guide sleeve travel mm	: 4.02
Tolerance mm	: + 0.25
Rated speed rpm	: 1430
guide sleeve travel mm	: 13.50
Tolerance mm	: + 0.50

GUIDE SLEEVE POSITION

control lever position degree	: - 1
Rated speed rpm	: 1230
Rack travel in mm	: 14.30
Tolerance mm	: + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure hPa	: 2500
Del. quantity cm3/1000 strokes	: 385.0
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000S.	: + 4.0
Spread	
Tolerance cm3/1000 strokes	: 6.0
Check tolerance cm3/1000S.	: 10.0

CONTROL LEVER

control lever position degree	: 122.0
tolerance degree	: + 4.0
RATED SPEED	
rack travel mm	: 14.30
Rated speed rpm	: 1152
Tolerance 1/min	: + 8
rack travel mm	: 4.00
Rated speed rpm	: 1295
Tolerance 1/min	: + 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1425

LOW IDLE

control lever
position degree : 76.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 225

CRT mm min. : $>$ 7.00

Testing:

Rated speed rpm : 325
rack travel mm : 5.10
Tolerance mm : \pm 0.10

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 15.30
Tolerance mm : \pm 0.05

Rated speed rpm : 900
rack travel mm : 13.90
Tolerance mm : \pm 0.10

Rated speed rpm : 700
rack travel mm : 12.60
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 2500
rack travel mm : 15.30
Tolerance mm : \pm 0.05

Rated speed rpm : 1100
Pressure hPa : -
rack travel mm : 8.20
Tolerance mm : \pm 0.20

MEASUREMENT

E20

Rated speed rpm : 1100

Pressure hPa : 1400
rack travel mm : 13.70
Tolerance mm : \pm 0.20

Pressure hPa : 300
rack travel mm : 8.60
Tolerance mm : \pm 0.05

Start interlock

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 260

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 280

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 2500
Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 353.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000s. : \pm 6.0

Aneroid pressure
hPa : 2500
Rated speed rpm : 700
rack travel mm : 12.60
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 327.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000s. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 187.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000s. : \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 555.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 325
Rack travel in mm : 5.10
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.06.93
Test oil : ISO 4113
Combination No. : 0 401 846 975
Injection pump
Pump designation : PE6P110A720RS3243
EP type number : 0 411 816 770

Governor
Governor design. : RQ300/1100PA412-5
Governor no. : 0 421 801 562

Cust. part No. : 615.60.08.0267

Customer spec. information
Customer : SNF
Motor : WD615.63
Power KW : 204.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.70

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.75
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 165.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000s. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000s. : 7.5

Rack travel in mm : 4.00
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000s. : + 6.0

Spread

Tolerance
cm³/1000 strokes : 4.5

Check tolerance
cm³/1000s. : 7.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1157
guide sleeve
travel mm : 6.46
Tolerance mm : + 0.10

Rated speed rpm : 300
guide sleeve
travel mm : 1.99
Tolerance mm : + 0.10

Rated speed rpm : 1100
guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 378
guide sleeve
travel mm : 3.69
Tolerance mm : + 0.10

Rated speed rpm : 510
guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 1330
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 600

Rack travel in mm : 15.00
Tolerance mm : + 0.40

FULL LOAD DELIVERY AT FULL LOAD STOP

Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 165.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000s. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000s. : 7.5

CONTROL LEVER

control lever
position degree : 100.0
tolerance degree : + 4.0

RATED SPEED
rack travel mm : 11.70
Rated speed rpm : 1153
Tolerance 1/min : + 8

rack travel mm : 4.00
Rated speed rpm : 1250
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 73.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 100
CRT mm min. : $>$ 5.50

Testing:

Rated speed rpm : 300
rack travel mm : 4.00
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 370
Tolerance 1/min : \pm 20

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.75
Tolerance mm : \pm 0.05

Rated speed rpm : 700
rack travel mm : 12.75
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 12.75
Tolerance mm : \pm 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.00
Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 325
rack travel mm : 10.40
Tolerance mm : \pm 0.10

Pressure hPa : 500
rack travel mm : 11.95
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 174.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 121.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 18.00
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 252.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rack travel in mm : 4.00
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.06.93
Test oil : ISO 4113
Combination No. : 0 401 846 976
Injection pump
Pump designation : PE6P110A720RS3243
EP type number : 0 411 816 770

Governor
Governor design. : RQ300/1100PA412-4
Governor no. : 0 421 801 496

Cust. part No. : 615.60.08.0268

Customer spec. information
Customer : SNF
Motor : WD615.68
Power KW : 228.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.75
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 184.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance cm ³ /1000S.	: + 4.0
--	---------

Spread

Tolerance cm ³ /1000 strokes	: 4.0
--	-------

Check tolerance cm ³ /1000S.	: 7.5
--	-------

Rack travel in mm : 4.00

Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 18.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread

Tolerance
cm³/1000 strokes : 4.5

Check tolerance
cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 1158
guide sleeve travel mm	: 6.43
Tolerance mm	: + 0.10

Rated speed rpm	: 300
guide sleeve travel mm	: 1.97
Tolerance mm	: + 0.10

Rated speed rpm	: 1100
guide sleeve travel mm	: 6.00
Tolerance mm	: + 0.10

Rated speed rpm	: 378
guide sleeve travel mm	: 3.66
Tolerance mm	: + 0.10

Rated speed rpm	: 510
guide sleeve travel mm	: 6.00
Tolerance mm	: + 0.10

Rated speed rpm	: 1330
guide sleeve travel mm	: 11.50
Tolerance mm	: + 0.50

GUIDE SLEEVE POSITION

control lever position degree	: - 1
Rated speed rpm	: 600

Rack travel in mm	: 16.00
Tolerance mm	: + 0.60

FULL LOAD DELIVERY AT FULL LOAD STOP

Aneroid pressure hPa	: -
Del. quantity cm ³ /1000 strokes	: 184.0
Tolerance cm ³ /1000 strokes	: + 1.0
Check tolerance cm ³ /1000S.	: + 4.0
Spread	
Tolerance cm ³ /1000 strokes	: 4.0
Check tolerance cm ³ /1000S.	: 7.5

CONTROL LEVER

control lever position degree	: 103.0
tolerance degree	: + 4.0

RATED SPEED	
rack travel mm	: 12.70
Rated speed rpm	: 1153
Tolerance 1/min	: + 8

rack travel mm	: 4.00
Rated speed rpm	: 1255
Tolerance 1/min	: + 15

rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1350

LOW IDLE

control lever
position degree : 73.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 100
CRT mm min. : $>$ 5.50

Testing:

Rated speed rpm : 300
rack travel mm : 4.00
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 370
Tolerance 1/min : \pm 20

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 13.75
Tolerance mm : \pm 0.05

Rated speed rpm : 700
rack travel mm : 13.75
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 13.75
Tolerance mm : \pm 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.05
Tolerance mm : \pm 0.15

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 375
rack travel mm : 11.00
Tolerance mm : \pm 0.10

Pressure hPa : 630
rack travel mm : 12.95
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 194.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 245.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rack travel in mm : 4.00
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.06.93
Test oil : ISO 4113
Combination No. : 0 401 846 977
Injection pump
Pump designation : PE6P110A720RS3243
EP type number : 0 411 816 770

Governor
Governor design. : RQV250...1100PA413
: -5
Governor no. : 0 421 813 811

Cust. part No. : 615.60.08.0269

Customer-spec. information
Customer : SNF
Motor : WD615.68
Power KW : 228.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.75
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 184.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Rack travel in mm : 4.00
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 18.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread

Tolerance
cm³/1000 strokes : 4.5

Check tolerance
cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1157
guide sleeve
travel mm : 8.51
Tolerance mm : + 0.25

Rated speed rpm : 250
guide sleeve
travel mm : 1.13
Tolerance mm : + 0.25

Rated speed rpm : 816
guide sleeve
travel mm : 5.35
Tolerance mm : + 0.25

Rated speed rpm : 356
guide sleeve
travel mm : 1.99
Tolerance mm : + 0.25

Rated speed rpm : 406

guide sleeve
travel mm : 2.42
Tolerance mm : + 0.25

Rated speed rpm : 510
guide sleeve
travel mm : 3.11
Tolerance mm : + 0.25

Rated speed rpm : 1390
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1210

Rack travel in mm : 12.75
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 184.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 7.5

CONTROL LEVER

control lever
position degree : 108.0
tolerance degree : + 4.0

RATED SPEED
rack travel mm : 12.70
Rated speed rpm : 1145
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1255
Tolerance 1/min : + 15

rack travel mm : 0.50

Tolerance mm : \pm 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 72.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. : $>$ 5.50

Testing:

Rated speed rpm : 250
rack travel mm : 4.00
Tolerance mm : \pm 0.10

Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 13.75
Tolerance mm : \pm 0.05

Rated speed rpm : 700
rack travel mm : 13.75
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 13.75
Tolerance mm : \pm 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.05
Tolerance mm : \pm 0.15

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 375
rack travel mm : 11.00

F04

Tolerance mm : \pm 0.10
Pressure hPa : 630
rack travel mm : 12.95
Tolerance mm : \pm 0.05

Start interlock

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 170

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 190

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 195.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 245.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rack travel in mm : 4.00
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000s. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000s. : 7.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.06.93
Test oil : ISO 4113

Combination No. : 0 401 846 978

Injection pump
Pump designation : PE6P110A720RS3243-1
EP type number : G 411 816 791

Governor
Governor design. : RQ300/1100PA412-8
Governor no. : 0 421 801 683

Cust. part No. : 615.60.08.0270

Customer spec. information
Customer : SNF
Motor : WD615.97

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.25
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 184.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Rack travel in mm : 3.80
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 18.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spreed

Tolerance
cm³/1000 strokes : 4.5

Check tolerance
cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1158
guide sleeve
travel mm : 6.44
Tolerance mm : + 0.10

Rated speed rpm : 300
guide sleeve
travel mm : 1.98
Tolerance mm : + 0.10

Rated speed rpm : 1100
guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 373
guide sleeve
travel mm : 3.53
Tolerance mm : + 0.10

Rated speed rpm : 510

guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 1330
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 600

Rack travel in mm : 16.00
Tolerance mm : + 0.60

FULL LOAD DELIVERY AT FULL LOAD STOP

Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 184.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 7.5

CONTROL LEVER

control lever
position degree : 102.0
tolerance degree : + 4.0

RATED SPEED
rack travel mm : 12.20
Rated speed rpm : 1153
Tolerance 1/min : + 8

rack travel mm : 4.00
Rated speed rpm : 1255
Tolerance 1/min : + 15

rack travel mm : 0.60
Tolerance mm : + 0.60
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 73.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 200
CRT mm min. : $>$ 5.20

Testing:

Rated speed rpm : 300
rack travel mm : 3.80
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 370
Tolerance 1/min : \pm 20

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 13.25
Tolerance mm : \pm 0.05

Rated speed rpm : 700
rack travel mm : 13.25
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 13.25
Tolerance mm : \pm 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 9.70
Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 375
rack travel mm : 10.70
Tolerance mm : \pm 0.10

Pressure hPa : 630
rack travel mm : 12.45
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 190.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 18.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 245.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rack travel in mm : 3.80
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 4.5

Check tolerance
cm3/1000S. : 7.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.10.93
Test oil : ISO 4113

Combination No. : 0 401 846 979

Injection pump
Pump designation : PE6P110A720RS3243
EP type number : 0 411 816 770

Governor
Governor design. : RQV250...1100PA413
: -6
Governor no. : 0 421 813 898

Cust. part No. : 615.60.08.0271

Customer spec. information
Customer : SNF
Motor : WD615.63
Power kW : 204.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.75
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 165.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Rack travel in mm : 4.50
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 23.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread

Tolerance
cm³/1000 strokes : 4.5

Check tolerance
cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1157
guide sleeve
travel mm : 8.51
Tolerance mm : + 0.25

Rated speed rpm : 250
guide sleeve
travel mm : 1.13
Tolerance mm : + 0.25

Rated speed rpm : 816
guide sleeve
travel mm : 5.35
Tolerance mm : + 0.25

Rated speed rpm : 356
guide sleeve
travel mm : 1.99
Tolerance mm : + 0.25

Rated speed rpm : 406

guide sleeve
travel mm : 2.42
Tolerance mm : + 0.25

Rated speed rpm : 510
guide sleeve
travel mm : 3.11
Tolerance mm : + 0.25

Rated speed rpm : 1390
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1220

Rack travel in mm : 11.75
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 165.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 7.5

CONTROL LEVER

control lever
position degree : 110.0
tolerance degree : + 4.0

RATED SPEED
rack travel mm : 11.70
Rated speed rpm : 1145
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1255
Tolerance 1/min : + 15

rack travel mm : 0.50

Tolerance mm : \pm 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 78.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. : $>$ 6.00

Testing:

Rated speed rpm : 250
rack travel mm : 4.50
Tolerance mm : \pm 0.10

Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.75
Tolerance mm : \pm 0.05

Rated speed rpm : 700
rack travel mm : 12.75
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 12.75
Tolerance mm : \pm 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.00
Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 325
rack travel mm : 10.40

F12

Tolerance mm : \pm 0.10

Pressure hPa : 500
rack travel mm : 11.95
Tolerance mm : \pm 0.05

Start interlock

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 170

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 190

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 176.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 5.0

Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 121.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000s. : \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 18.00
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 252.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000s. : \pm 24.0

LOW IDLE

Rack travel in mm : 4.50
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000s. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000s. : 7.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.10.93
Test oil : ISO 4113
Combination No. : 0 401 846 980
Injection pump
Pump designation : PE6P110A72ORS3243
EP type number : 0 411 816 770

Governor
Governor design. : RQ300/1100PA412-9
Governor no. : 0 421 801 696

Cust. part No. : 615.60.08.0277

Customer spec. information
Customer : SNF
Motor : WDS15.42/43

TEST BENCH REQUIREMENTS

Inlet Line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.80
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 155.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Rated speed rpm : 300

Rack travel in mm : 3.50
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread

Tolerance
cm³/1000 strokes : 4.5

Check tolerance
cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1169
guide sleeve
travel mm : 6.45
Tolerance mm : + 0.10

Rated speed rpm : 300
guide sleeve
travel mm : 1.70
Tolerance mm : + 0.10

Rated speed rpm : 1100
guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 364
guide sleeve
travel mm : 3.04
Tolerance mm : + 0.10

Rated speed rpm : 520
guide sleeve
travel mm : 6.00

Tolerance mm : + 0.10

Rated speed rpm : 1340
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 600

Rack travel in mm : 16.00
Tolerance mm : + 0.60

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 155.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

CONTROL LEVER

control lever
position degree : 103.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.80
Rated speed rpm : 1165
Tolerance 1/min : + 8

rack travel mm : 4.00
Rated speed rpm : 1265
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 72.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 200
CRT mm min. : $>$ 5.00

Testing:

Rated speed rpm : 300
rack travel mm : 3.50
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 360
Tolerance 1/min : \pm 20

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.80
Tolerance mm : \pm 0.05

Rated speed rpm : 700
rack travel mm : 12.80
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 12.80
Tolerance mm : \pm 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 9.75
Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 580
rack travel mm : 12.40
Tolerance mm : \pm 0.10

Pressure hPa : 310
rack travel mm : 10.10
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 170.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 18.00
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 260.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 3.50
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed

Tolerance
ca3/1000 strokes : 4.5
Check tolerance
ca3/1000s. : 7.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.10.93
Test oil : ISO 4113
Combination No. : 0 401 846 981
Injection pump
Pump designation : PE6P110A72ORS3243
EP type number : 0 411 816 770

Governor
Governor design. : RQV250...1100PA413
:-7
Governor no. : 0 421 814 073

Cust. part No. : 615.60.08.0283

Customer spec. information
Customer : SNF
Motor : WD615.42/43

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
:-300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.80
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 155.0

Tolerance		
cm ³ /1000 strokes	: +	1.0
Check tolerance		
cm ³ /1000S.	: +	4.0
Spread		
Tolerance		
cm ³ /1000 strokes	:	4.0
Check tolerance		
cm ³ /1000S.	:	7.5
Rated speed rpm	:	250
Rack travel in mm	:	3.50
Tolerance mm	: +	0.10
Del. quantity		
cm ³ /1000 strokes	:	13.0
Tolerance		
cm ³ /1000 strokes	: +	3.0
Check tolerance		
cm ³ /1000S.	: +	6.0
Spread		
Tolerance		
cm ³ /1000 strokes	:	4.5
Check tolerance		
cm ³ /1000S.	:	7.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	:	1177
guide sleeve		
travel mm	:	8.75
Tolerance mm	: +	0.15
Rated speed rpm	:	250
guide sleeve		
travel mm	:	1.13
Tolerance mm	: +	0.20
Rated speed rpm	:	824
guide sleeve		
travel mm	:	5.41
Tolerance mm	: +	0.25
Rated speed rpm	:	356
guide sleeve		
travel mm	:	1.99
Tolerance mm	: +	0.25
Rated speed rpm	:	406

guide sleeve		
travel mm	:	2.42
Tolerance mm	: +	0.25
Rated speed rpm	:	510
guide sleeve		
travel mm	:	3.11
Tolerance mm	: +	0.25
Rated speed rpm	:	1390
guide sleeve		
travel mm	:	11.50
Tolerance mm	: +	0.50

GUIDE SLEEVE POSITION

control lever		
position degree	: -	1
Rated speed rpm	:	1260
Rack travel in mm	:	11.80
Tolerance mm	: +	1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	1100
Aneroid pressure		
hPa	:	-
Del. quantity		
cm ³ /1000 strokes	:	155.0
Tolerance		
cm ³ /1000 strokes	: +	1.0
Check tolerance		
cm ³ /1000S.	: +	4.0
Spread		
Tolerance		
cm ³ /1000 strokes	:	4.0
Check tolerance		
cm ³ /1000S.	:	7.5

CONTROL LEVER

control lever		
position degree	:	106.0
tolerance degree	: +	4.0
RATED SPEED		
rack travel mm	:	11.80
Rated speed rpm	:	1165
Tolerance 1/min	: +	5
rack travel mm	:	4.00
Rated speed rpm	:	1255
Tolerance 1/min	: +	15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 72.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 150
CRT mm min. : $>$ 5.50

Testing:

Rated speed rpm : 250
rack travel mm : 3.50
Tolerance mm : \pm 0.10

Rated speed rpm : 300
rack travel mm : 2.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.80
Tolerance mm : \pm 0.05

Rated speed rpm : 700
rack travel mm : 12.80
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 12.80
Tolerance mm : \pm 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 9.75
Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 580
rack travel mm : 12.40
Tolerance mm : \pm 0.10

Pressure hPa : 310
rack travel mm : 10.10
Tolerance mm : \pm 0.05

Start interlock

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 170

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 190

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 170.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 18.00
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 260.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 250

Rack travel in mm : 3.50

Tolerance mm : \pm 0.10

Del. quantity

cm³/1000 strokes : 13.0

Tolerance

cm³/1000 strokes : \pm 3.0

Check tolerance

cm³/1000S. : \pm 6.0

Speed

Tolerance

cm³/1000 strokes : 4.5

Check tolerance

cm³/1000S. : 7.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.03.94
Test oil : ISO 4113
Combination No. : 0 401 849 755
Injection pump
Pump designation : PE10P110A920/5LS3164
EP type number : 0 411 819 708

Governor
Governor design. : RQV300...1150PA549
: -6
Governor no. : 0 421 814 029

Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : BF10L513
Power KW : 278.0

TEST BENCH REQUIREMENTS

Inlet Line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1-10- 9- 4- 3- 6
: - 5- 8- 7- 2

Phasing : 0-27-72-99-144-171
: -216-243-288-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 300
Rack travel in mm : 7.00
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 15.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 5.0
Speed

Tolerance
cm3/1000 strokes : 4.5
Check tolerance
cm3/1000s. : 7.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control Lever
position degree : - 1
Rated speed rpm : 1290

Rack travel in mm : 9.70
Tolerance mm : ± 1.30

CONTROL LEVER

control Lever
position degree : 55.0
tolerance degree : ± 4.0

control Lever
position degree : 123.0
tolerance degree : ± 4.0

RATED SPEED
rack travel mm : 10.70
Rated speed rpm : 1195
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1300
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1450

LOW IDLE

control Lever
position degree : 90.0
tolerance degree : ± 4.0

control Lever
position degree : 19.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 10.10

Testing:

Rated speed rpm : 300
rack travel mm : 7.00
Tolerance mm : ± 0.10

Rated speed rpm : 385

TORQUE CONTROL

Rated speed rpm : 800
rack travel mm : 11.75
Tolerance mm : ± 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 11.75
Tolerance mm : ± 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.75
Tolerance mm : ± 0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 420
rack travel mm : 11.00
Tolerance mm : ± 0.10

Pressure hPa : 450
rack travel mm : 11.45
Tolerance mm : ± 0.05

Start interlock

Rated speed rpm : > 100
Rated speed rpm : < 220

Check
speed 1/min : > 80
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -
Rated speed rpm : 450
Del. quantity
cm³/1000 strokes : 110.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 7.00
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 15.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.11.93
Test oil : ISO 4113
Combination No. : 0 401 878 717
Injection pump
Pump designation : PE8P110A320LS3853-1.
EP type number : 0 411 818 726
Governor
Governor design. : RSV400...1000P1A554
Governor no. : 0 421 833 376
Cust. part No. : 9273614

Customer-spec. information
Customer : LIEBHERR
Motor : D 9308 TI
Power kW : 288.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Test nozzle holder
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 3.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 8- 7- 2- 6
 : - 3- 5- 4
Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 900
Rack travel in mm : 14.65
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 197.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Speed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Rated speed rpm : 400

Del. quantity
cm³/1000 strokes : 15.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Spread
Tolerance

cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900
Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 197.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance

cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

CONTROL LEVER

control lever
position degree : 100.0
tolerance degree : ± 4.0

RATED SPEED
rack travel mm : 13.65
Rated speed rpm : 945
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1000
Tolerance 1/min : ± 15

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1100

rack travel mm : 4.00
Rated speed rpm : 1030
Tolerance 1/min : ± 15

LOW IDLE

control lever
position degree : 75.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 5.70
Tolerance mm : ± 0.10

Testing:

rack travel mm : 2.00
Rated speed rpm : 520
Tolerance 1/min : ± 30

TORQUE CONTROL

Rated speed rpm : 900
rack travel mm : 14.65
Tolerance mm : ± 0.05

Rated speed rpm : 500
rack travel mm : 14.65
Tolerance mm : ± 0.10

Rated speed rpm : 350
rack travel mm : 16.10
Tolerance mm : ± 0.30

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1500
rack travel mm : 14.65
Tolerance mm : \pm 0.05

Rated speed rpm : 600
Pressure hPa : -
rack travel mm : 13.65
Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 600
Pressure hPa : 710
rack travel mm : 13.90
Tolerance mm : \pm 0.10

Pressure hPa : 780
rack travel mm : 14.40
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

rack travel mm : 16.10
Tolerance mm : \pm 0.30

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 172.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50

F27

Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 15.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.01.94
Test oil : ISO 4113
Combination No. : 0 402 046 339
Injection pump
Pump designation : PES6P110A720LS524
EP type number : 0 412 016 073
Governor
Governor design. : RQ750PA661-1
Governor no. : 0 421 801 330

Cust. part No. : 2-7966

Customer spec. information
Customer : MAN
Motor : D2866E
Power kW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 1.5
Test nozzle holder
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 3.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 6- 2- 4- 1- 5-
: 3
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75
Start of delivery mark
Barrel no. : 6

BASIC SETTING

Rated speed rpm : 700
Rack travel in mm : 13.45
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 144.5
Tolerance
cm³/1000 strokes : ± 1.5

Check tolerance
cm³/1000S. : + 4.0

Speed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Rated speed rpm : 250

Rack travel in mm : 6.10

Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 17.5

Tolerance
cm³/1000 strokes : + 2.5

Check tolerance
cm³/1000S. : + 5.0

Speed
Tolerance
cm³/1000 strokes : 4.5

Check tolerance
cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 144.5

Tolerance
cm³/1000 strokes : + 1.5

Check tolerance
cm³/1000S. : + 4.0

Speed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750
rack travel mm : 12.40

Rated speed rpm : 804

Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 950

Rated speed rpm : 751
rack travel mm : 12.40

Rated speed rpm : 805
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 950

Rated speed rpm : 752
rack travel mm : 12.40

Rated speed rpm : 806
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 950

Rated speed rpm : 753
rack travel mm : 12.40

Rated speed rpm : 807
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 950

Rated speed rpm : 754
rack travel mm : 12.40

Rated speed rpm : 808
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 950

Rated speed rpm : 755
rack travel mm : 12.40

Rated speed rpm : 809

Tolerance 1/min : \pm 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 950

LOW IDLE

Testing:

Rated speed rpm : 250
rack travel mm : 6.10
Tolerance mm : \pm 0.10

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.45
Tolerance mm : \pm 0.05

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 100.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 250

Rack travel in mm : 6.10
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 17.5
Tolerance
cm³/1000 strokes : \pm 2.5
Check tolerance
cm³/1000S. : \pm 5.0
Speed
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.01.94
Test oil : ISO 4113
Combination No. : 0 402 046 810
Injection pump
Pump designation : PES6P120A720LS3229
EP type number : 0 412 026 733

Governor
Governor design. : RQ750PA661-4
Governor no. : 0 421 801 361

Cust. part No. :

Customer spec. information
Customer : MAN
Motor : D2866TE
Power KW : 190.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 6- 2- 4- 1- 5-
: 3

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.25
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 232.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 4.70

Tolerance mm : + 0.20

Del. quantity
cm³/1000 strokes : 27.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Speed

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 232.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

rack travel mm : 0.50

Tolerance mm : + 0.50

Rated speed rpm : 950

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750
rack travel mm : 10.20

Rated speed rpm : 786
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 950

Rated speed rpm : 751
rack travel mm : 10.20

Rated speed rpm : 787
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 950

Rated speed rpm : 752
rack travel mm : 10.20

Rated speed rpm : 788
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 950

Rated speed rpm : 753
rack travel mm : 10.20

Rated speed rpm : 789
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 950

Rated speed rpm : 754
rack travel mm : 10.20

Rated speed rpm : 790
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50

Rated speed rpm : 950

Rated speed rpm : 755
rack travel mm : 10.20

Rated speed rpm : 791
Tolerance 1/min : \pm 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 950

LOW IDLE

Testing:

Rated speed rpm : 300
rack travel mm : 4.70
Tolerance mm : \pm 0.20

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 11.25
Tolerance mm : \pm 0.05

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 4.70
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 27.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.01.94
Test oil : ISO 4113

Combination No. : 0 402 046 814

Injection pump
Pump designation : PES6P120A720LS3229
EP type number : 0 412 026 733

Governor
Governor design. : RQ750PA945
Governor no. : 0 421 801 512

Cust. part No. : 2-7970

Customer-spec. information
Customer : MAN
Motor : D2866LE
Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 683 901 019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 6- 2- 4- 1- 5-
: 3

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.55
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 282.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 4.40

Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 27.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 282.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

rack travel mm : 0.50

Tolerance mm : + 0.50

Rated speed rpm : 950

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750
rack travel mm : 11.50

Rated speed rpm : 791
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 950

Rated speed rpm : 751
rack travel mm : 11.50

Rated speed rpm : 792
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 950

Rated speed rpm : 752
rack travel mm : 11.50

Rated speed rpm : 793
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 950

Rated speed rpm : 753
rack travel mm : 11.50

Rated speed rpm : 794
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 950

Rated speed rpm : 754
rack travel mm : 11.50

Rated speed rpm : 795
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50

Rated speed rpm : 950

Rated speed rpm : 755
rack travel mm : 11.50

Rated speed rpm : 796
Tolerance 1/min : \pm 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 950

LOW IDLE

Testing:

Rated speed rpm : 300
rack travel mm : 4.40
Tolerance mm : \pm 0.30

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 12.55
Tolerance mm : \pm 0.05

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 4.40
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 27.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.06.93
Test oil : ISO 4113
Combination No. : 0 402 046 822
Injection pump
Pump designation : PES6P110A320RS3278
EP type number : 0 412 016 735

Governor
Governor design. : RQ75CPA1000
Governor no. : 0 421 801 584

Cust. part No. :

Customer spec. information
Customer : RVI
Motor : MIDR 060226
Power KW : 129.0

TEST BENCH REQUIREMENTS

Inlet line : 1.4

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 4.85
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

Beginning of delivery difference

and maximum rack
travel : 10.50
Tolerance mm : + 0.50

CRT ZERO POSITION

Rack travel in mm : 14.15
Tolerance mm : + 0.05

BASIC SETTING

Rated speed rpm : 700

Rated speed rpm : 275
 Rack travel in mm : -6.65
 Tolerance mm : \pm 0.15
 Del. quantity
 cm³/1000 strokes : 15.5
 Tolerance
 cm³/1000 strokes : \pm 2.5
 Check tolerance
 cm³/1000S. : \pm 5.0
 Spread
 Tolerance
 cm³/1000 strokes : 4.5
 Check tolerance
 cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 760
 guide sleeve
 travel mm : 4.31
 Tolerance mm : \pm 0.10
 Rated speed rpm : 815
 guide sleeve
 travel mm : 10.00
 Tolerance mm : \pm 0.20
 Rated speed rpm : 870
 guide sleeve
 travel mm : 11.50
 Tolerance mm : \pm 0.50

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750
 rack travel mm : -1.00
 Rated speed rpm : 792
 Tolerance 1/min : \pm 4
 rack travel mm : -10.10
 rack travel mm : -13.65
 Tolerance mm : \pm 0.55
 Rated speed rpm : 900
 Rated speed rpm : 751
 rack travel mm : -1.00
 Rated speed rpm : 793
 Tolerance 1/min : \pm 4
 rack travel mm : -10.10

rack travel mm : -13.65
 Tolerance mm : \pm 0.55
 Rated speed rpm : 900
 Rated speed rpm : 752
 rack travel mm : -1.00
 Rated speed rpm : 794
 Tolerance 1/min : \pm 4
 rack travel mm : -10.10
 rack travel mm : -13.65
 Tolerance mm : \pm 0.55
 Rated speed rpm : 900

Rated speed rpm : 753
 rack travel mm : -1.00
 Rated speed rpm : 795
 Tolerance 1/min : \pm 4
 rack travel mm : -10.10
 rack travel mm : -13.65
 Tolerance mm : \pm 0.55
 Rated speed rpm : 900

Rated speed rpm : 754
 rack travel mm : -1.00
 Rated speed rpm : 796
 Tolerance 1/min : \pm 4
 rack travel mm : -10.10
 rack travel mm : -13.65
 Tolerance mm : \pm 0.55
 Rated speed rpm : 900

Rated speed rpm : 755
 rack travel mm : -1.00
 Rated speed rpm : 797
 Tolerance 1/min : \pm 4
 rack travel mm : -10.10
 rack travel mm : -13.65
 Tolerance mm : \pm 0.55
 Rated speed rpm : 900

LOW IDLE

Testing:

Rated speed rpm : 275
 rack travel mm : -6.65
 Tolerance mm : \pm 0.15

TORQUE CONTROL

Rated speed rpm : 700

LOW IDLE

Rated speed rpm : 275

Rack travel in mm : -6.65

Tolerance mm : \pm 0.15

Del. quantity

cm³/1000 strokes : 15.5

Tolerance

cm³/1000 strokes : \pm 2.5

Check tolerance

cm³/1000S. : \pm 5.0

Speed

Tolerance

cm³/1000 strokes : 4.5

Check tolerance

cm³/1000S. : 7.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.10.93
Test oil : ISO 4113
Combination No. : 0 402 046 838
Injection pump
Pump designation : PES6P100A320LS3306
EP type number : 0 412 006 703
Governor
Governor design. : RGV350...1200PA1042K
Governor no. : 0 421 815 320

Cust. part No. : 1819913C91

Customer spec. information
Customer : NAVISTAR
Motor : DTA-466
Power KW : 172.0

TEST BENCH REQUIREMENTS

Inlet Line : 2.4

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : 2.8

Overflow quantity
min. l/h : 250
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 23.0
Tolerance bar : ± 1.0

Prestroke mm : 3.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 15.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 800

Rack travel in mm : 13.55
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 148.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 350

Rack travel in mm : 6.10
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 15.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.5

Speed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1440

Rack travel in mm : 10.00
Tolerance mm : ± 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 800
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 148.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

CONTROL LEVER

control lever
position degree : 66.0
tolerance degree : ± 4.0

control lever
position degree : 120.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 13.90
Rated speed rpm : 1265

Tolerance 1/min : ± 15

rack travel mm : 4.00
Rated speed rpm : 1445

Tolerance 1/min : ± 5

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1550

LOW IDLE

control lever
position degree : 78.0
tolerance degree : ± 4.0

control lever
position degree : 21.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 275

CRT mm min. : > 7.60

Testing:

Rated speed rpm : 350
rack travel mm : 6.10
Tolerance mm : ± 0.10

Rated speed rpm : 435

TORQUE CONTROL

Rated speed rpm : 800
rack travel mm : 13.55
Tolerance mm : \pm 0.05

Rated speed rpm : 1200
rack travel mm : 15.00
Tolerance mm : \pm 0.10

Rated speed rpm : 600
rack travel mm : 12.80
Tolerance mm : \pm 0.20

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1200
Pressure hPa : 1200
rack travel mm : 14.70
Tolerance mm : \pm 0.10

Rated speed rpm : 1200
Pressure hPa : -
rack travel mm : 9.60
Tolerance mm : \pm 0.20

MEASUREMENT

Rated speed rpm : 1200
Pressure hPa : 730
rack travel mm : 13.40
Tolerance mm : \pm 0.20

Pressure hPa : 300
rack travel mm : 10.75
Tolerance mm : \pm 0.05

Start interlock

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 280

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -

Rated speed rpm : 1200
Del. quantity
cm³/1000 strokes : 180.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

rack travel mm : 12.80
Tolerance mm : \pm 0.20

Aneroid pressure
hPa : -

Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 71.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 140.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000s. : \pm 25.0

LOW IDLE

Rated speed rpm : 350
Rack travel in mm : 6.10
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 15.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 4.5

Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000s. : 6.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 30.06.94
Test oil : ISO 4113
Combination No. : 0 402 046 847
Injection pump
Pump designation : PES6P120A720RS3316
EP type number : 0 412 026 761
Governor
Governor design. : RQV300...1200PA1045
Governor no. : 0 421 814 043

Cust. part No. :

Customer spec. information
Customer : IVECO-AIFO
Motor : 8361 SRM 37
Power KW : 272.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Test nozzle holder
assembly : 1 688 901 105
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 3.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 300
Rack travel in mm : 3.30
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 26.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1360

Rack travel in mm : 12.90
Tolerance mm : \pm 1.30

CONTROL LEVER

control lever
position degree : 115.0
tolerance degree : \pm 4.0

RATED SPEED
rack travel mm : 12.90
Rated speed rpm : 1245
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1390
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1550

LOW IDLE

control lever
position degree : 61.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. : $>$ 4.70

Testing:

Rated speed rpm : 300
rack travel mm : 3.30
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 385
Tolerance 1/min : \pm 30

TORQUE CONTROL

Rated speed rpm : 750
rack travel mm : 14.00
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 13.95
Tolerance mm : \pm 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 9.50
Tolerance mm : \pm 0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 320
rack travel mm : 10.20
Tolerance mm : \pm 0.20

Pressure hPa : 440
rack travel mm : 12.65
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 269.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500

Del. quantity
cm³/1000 strokes : 152.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000s. : + 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 305.0
Tolerance
cm³/1000 strokes : + 15.0
Check tolerance
cm³/1000s. : + 19.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 3.30
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 26.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000s. : + 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.09.97
Test oil : ISO 4113

Combination No. : 0 402 046 880

Injection pump
Pump designation : PES6P120B320RS3377
EP type number : 0 412 026 796

Governor
Governor design. : RQ750PA1304
Governor no. : 0 421 801 811

Cust. part No. :

Customer spec. information
Customer : PERKINS
Motor : EAGLE2006TWG2
Power kW : 287.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Overflow quantity
min. l/h : 115
Tolerance l/h : ± 20.0

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.80
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 4- 2- 6- 3-
: 5

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.90
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 272.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance cm ³ /1000S.	: + 4.0
<hr/>	
Spread	
Tolerance cm ³ /1000 strokes	: 5.0
<hr/>	
Check tolerance cm ³ /1000S.	: 9.0
<hr/>	

Rack travel in mm	: 4.30
Tolerance mm	: + 0.20
Del. quantity cm ³ /1000 strokes	: 30.0
Tolerance cm ³ /1000 strokes	: + 4.0
Check tolerance cm ³ /1000S.	: + 6.0
Spread	
Tolerance cm ³ /1000 strokes	: 8.0
Check tolerance cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 763
guide sleeve travel mm	: 4.57
Tolerance mm	: + 0.15

Rated speed rpm	: 790
guide sleeve travel mm	: 3.50
Tolerance mm	: + 0.25

Rated speed rpm	: 809
guide sleeve travel mm	: 12.00
Tolerance mm	: + 0.25

Rated speed rpm	: 860
guide sleeve travel mm	: 13.50
Tolerance mm	: + 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
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Aneroid pressure hPa	: -
Del. quantity cm ³ /1000 strokes	: 272.0
Tolerance cm ³ /1000 strokes	: + 1.0
Check tolerance cm ³ /1000S.	: + 4.0
Spread	
Tolerance cm ³ /1000 strokes	: 5.0
Check tolerance cm ³ /1000S.	: 9.0

CONTROL LEVER

control lever position degree	: 34.0
tolerance degree	: + 4.0

control lever position degree	: 94.0
tolerance degree	: + 4.0

ASSEMBLY GOVERNOR SETTING

Rated speed rpm	: 765
rack travel mm	: 11.90

Rated speed rpm	: 785
Tolerance 1/min	: + 5
rack travel mm	: 4.00

rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 900

Rated speed rpm	: 766
rack travel mm	: 11.90

Rated speed rpm	: 786
Tolerance 1/min	: + 5
rack travel mm	: 4.00

rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 900

Rated speed rpm	: 767
rack travel mm	: 11.90

Rated speed rpm	: 787
Tolerance 1/min	: + 5
rack travel mm	: 4.00

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 900

Rated speed rpm : 768
rack travel mm : 11.90

Rated speed rpm : 788
Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 900

Rated speed rpm : 769
rack travel mm : 11.90

Rated speed rpm : 789
Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 900

Rated speed rpm : 770
rack travel mm : 11.90

Rated speed rpm : 790
Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 900

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 12.90
Tolerance mm : \pm 0.05

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 17.90
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 260.0

Tolerance
cm³/1000 strokes : \pm 25.0
Check tolerance
cm³/1000s. : \pm 29.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.09.95
Test oil : ISO 4113

Combination No. : 0 402 076 750

Injection pump
Pump designation : PES6P120A720RS3311
EP type number : 0 412 026 760

Governor
Governor design. : RSV400...1050P0A602
Governor no. : 0 421 833 483

Cust. part No. :

Customer spec. information
Customer : FNN-GEOTECH
Motor : P396
Power KW : 179.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 100
Tolerance l/h : ± 20.0

Test nozzle holde
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.45
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 158.0

Tolerance	
cm ³ /1000 strokes	: + 1.0
Check tolerance	
cm ³ /1000S.	: + 4.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0

Rated speed rpm	: 400
Rack travel in mm	: 5.20
Tolerance mm	: + 0.10
Del. quantity	
cm ³ /1000 strokes	: 26.0
Tolerance	
cm ³ /1000 strokes	: + 3.0
Check tolerance	
cm ³ /1000S.	: + 6.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever	
position degree	: - 3
Rated speed rpm	: 800
Rack travel in mm	: 0.50
Tolerance mm	: + 0.20
governor spring	
pre-tension	
click setting x	: 4.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1050
Aneroid pressure	
hPa	: 1500

Del. quantity	
cm ³ /1000 strokes	: 158.0
Tolerance	
cm ³ /1000 strokes	: + 1.0
Check tolerance	
cm ³ /1000S.	: + 4.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0

CONTROL LEVER

control lever	
position degree	: 96.0
tolerance degree	: + 4.0

RATED SPEED

rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1320
rack travel mm	: 4.00
Rated speed rpm	: 1160
Tolerance 1/min	: + 15

ASSEMBLY GOVERNOR SETTING

Rated speed rpm	: 1093
rack travel mm	: 10.45
Rated speed rpm	: 1153
Tolerance 1/min	: + 5
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1320

Rated speed rpm	: 1094
rack travel mm	: 10.45

Rated speed rpm	: 1154
Tolerance 1/min	: + 5
rack travel mm	: 4.00

rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1320

Rated speed rpm	: 1095
rack travel mm	: 10.45

Rated speed rpm	: 1155
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Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1320

Rated speed rpm : 1096
rack travel mm : 10.45

Rated speed rpm : 1156
Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1320

Rated speed rpm : 1097
rack travel mm : 10.45

Rated speed rpm : 1157
Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1320

Rated speed rpm : 1098
rack travel mm : 10.45

Rated speed rpm : 1158
Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1320

LOW IDLE

control lever
position degree : 73.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 4.70
Tolerance mm : \pm 0.10

Testing:

Rated speed rpm : 400

rack travel mm : 5.20
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 530
Tolerance 1/min : \pm 20

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 11.45
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 12.50
Tolerance mm : \pm 0.10

Rated speed rpm : 935
rack travel mm : 12.00
Tolerance mm : \pm 0.10

Rated speed rpm : 700
rack travel mm : 12.50
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 12.50
Tolerance mm : \pm 0.10

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 9.40
Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 950
rack travel mm : 12.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 194.0

Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

rack travel mm : 12.00
Tolerance mm : + 0.10

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 127.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + 0.50
Del. quantity
cm³/1000 strokes : 195.0
Tolerance
cm³/1000 strokes : + 15.0
Check tolerance
cm³/1000S. : + 19.0

LOW IDLE

Rated speed rpm : 400
Rack travel in mm : 5.20
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 26.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.07.95
Test oil : ISO 4113

Combination No. : 0 402 076 751

Injection pump
Pump designation : PES6P120A720RS3311
EP type number : 0 412 026 760

Governor
Governor design. : RSV400...1050POA603
Governor no. : 0 421 833 484

Cust. part No. :

Customer spec. information
Customer : FWH-GEOTECH
Motor : P396
Power KW : 157.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 100
Tolerance l/h : ± 20.0

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 10.35

Tolerance mm	: ± 0.05
<hr/>	
Del. quantity cm ³ /1000 strokes	: 132.0
<hr/>	
Tolerance cm ³ /1000 strokes	: ± 1.0
<hr/>	
Check tolerance cm ³ /1000S.	: ± 4.0
<hr/>	
Spread	
<hr/>	
Tolerance cm ³ /1000 strokes	: 5.0
<hr/>	
Check tolerance cm ³ /1000S.	: 9.0
<hr/>	

Rated speed rpm	: 400
<hr/>	
Rack travel in mm	: 4.50
Tolerance mm	: ± 0.10
Del. quantity cm ³ /1000 strokes	: 18.0
Tolerance cm ³ /1000 strokes	: ± 3.0
Check tolerance cm ³ /1000S.	: ± 6.0
Spread	
Tolerance cm ³ /1000 strokes	: 8.0
Check tolerance cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree	: - 3
Rated speed rpm	: 800
<hr/>	
Rack travel in mm	: 0.50
Tolerance mm	: ± 0.20
<hr/>	
governor spring pre-tension click setting x	: 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1050
Aneroid pressure hPa	: 1500
Del. quantity cm ³ /1000 strokes	: 132.0
Tolerance cm ³ /1000 strokes	: ± 1.0
Check tolerance cm ³ /1000S.	: ± 4.0
Spread	
Tolerance cm ³ /1000 strokes	: 5.0
Check tolerance cm ³ /1000S.	: 9.0

CONTROL LEVER

control lever position degree	: 101.0
tolerance degree	: ± 4.0

RATED SPEED

rack travel mm	: 0.85
Tolerance mm	: ± 0.55
Rated speed rpm	: 1320
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1160
Tolerance 1/min	: ± 15

ASSEMBLY GOVERNOR SETTING

Rated speed rpm	: 1093
rack travel mm	: 9.35
<hr/>	
Rated speed rpm	: 1153
Tolerance 1/min	: ± 5
rack travel mm	: 4.00
<hr/>	
rack travel mm	: 0.85
Tolerance mm	: ± 0.55
Rated speed rpm	: 1320

Rated speed rpm	: 1094
rack travel mm	: 9.35

Rated speed rpm	: 1154
Tolerance 1/min	: ± 5
rack travel mm	: 4.00

rack travel mm	: 0.85
Tolerance mm	: ± 0.55
Rated speed rpm	: 1320

Rated speed rpm	: 1095
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rack travel mm : 9.35
 Rated speed rpm : 1155
 Tolerance 1/min : + 5
 rack travel mm : 4.00

rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1320

Rated speed rpm : 1096
 rack travel mm : 9.35

Rated speed rpm : 1156
 Tolerance 1/min : + 5
 rack travel mm : 4.00

rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1320

Rated speed rpm : 1097
 rack travel mm : 9.35

Rated speed rpm : 1157
 Tolerance 1/min : + 5
 rack travel mm : 4.00

rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1320

Rated speed rpm : 1098
 rack travel mm : 9.35

Rated speed rpm : 1158
 Tolerance 1/min : + 5
 rack travel mm : 4.00

rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1320

LOW IDLE

control lever
 position degree : 79.0
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
 rack travel mm : 5.00
 Tolerance mm : + 0.10

Testing:

Rated speed rpm : 400
 rack travel mm : 4.50
 Tolerance mm : + 0.10

rack travel mm : 2.00
 Rated speed rpm : 530
 Tolerance 1/min : + 20

TORQUE CONTROL

Rated speed rpm : 1050
 rack travel mm : 10.35
 Tolerance mm : + 0.05

Rated speed rpm : 750
 rack travel mm : 11.20
 Tolerance mm : + 0.10

Rated speed rpm : 910
 rack travel mm : 11.00
 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : 1500
 rack travel mm : 11.20
 Tolerance mm : + 0.10

Rated speed rpm : 500
 Pressure hPa : -
 rack travel mm : 9.00
 Tolerance mm : + 0.10

MEASUREMENT

Rated speed rpm : 500
 Pressure hPa : 900
 rack travel mm : 10.85
 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 1500
 Rated speed rpm : 750
 Del. quantity
 cm³/1000 strokes : 163.0

Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

rack travel mm : 11.00
Tolerance mm : ± 0.10

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 115.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 190.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 400
Rack travel in mm : 4.50
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.11.97
Test oil : ISO 4113

Combination No. : 0 402 076 758

Injection pump
Pump designation : PES6P120A720RS3322
EP type number : 0 412 026 764

Governor
Governor design. : RSV650...1250P8A566
Governor no. : 0 421 833 415

Cust. part No. : 87801599

Customer spec. information
Customer : FNN-GEOTECH
Power kW : 164.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

H02

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 10.05
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 131.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 6.0

Spreed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 650

Rack travel in mm : 4.40

Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spreed

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : + 0.20

governor spring
pre-tension
click setting x : 1.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
Aneroid pressure
hPa : 1000
Del. quantity
cm³/1000 strokes : 131.0
Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 6.0

Spreed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 112.0
tolerance degree : +- 4.0

RATED SPEED

Rated speed rpm : 1330
Tolerance 1/min : + 15

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1293
rack travel mm : 9.05

Rated speed rpm : 1325
Tolerance 1/min : + 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1500

Rated speed rpm : 1294
rack travel mm : 9.05

Rated speed rpm : 1326
Tolerance 1/min : + 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1500

Rated speed rpm : 1295
rack travel mm : 9.05

Rated speed rpm : 1327
Tolerance 1/min : + 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1500

Rated speed rpm : 1296

rack travel mm : 9.05
 Rated speed rpm : 1328
 Tolerance 1/min : + 5
 rack travel mm : 4.00
 rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1500

Rated speed rpm : 1297
 rack travel mm : 9.05

Rated speed rpm : 1329
 Tolerance 1/min : + 5
 rack travel mm : 4.00

rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1500

Rated speed rpm : 1298
 rack travel mm : 9.05

Rated speed rpm : 1330
 Tolerance 1/min : + 5
 rack travel mm : 4.00

rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1500

LOW IDLE

control lever
 position degree : 85.0
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 650
 rack travel mm : 3.90
 Tolerance mm : + 0.10

Testing:

Rated speed rpm : 650
 rack travel mm : 4.40
 Tolerance mm : + 0.10

rack travel mm : 2.00
 Rated speed rpm : 770
 Tolerance 1/min : + 50

TORQUE CONTROL

H04

Rated speed rpm : 1250
 rack travel mm : 10.05
 Tolerance mm : + 0.05

Rated speed rpm : 900
 rack travel mm : 10.60
 Tolerance mm : + 0.10

Rated speed rpm : 1160
 rack travel mm : 10.35
 Tolerance mm : + 0.10

Rated speed rpm : 700
 rack travel mm : 10.60
 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : 1000
 rack travel mm : 10.60
 Tolerance mm : + 0.10

Rated speed rpm : 500
 Pressure hPa : -
 rack travel mm : 7.60
 Tolerance mm : + 0.10

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 560
 rack travel mm : 9.80
 Tolerance mm : + 0.05

Start interlock

Rated speed rpm : > 100

Check
 speed 1/min : > 80

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 1000
 Rated speed rpm : 900
 Del. quantity
 cm³/1000 strokes : 144.5
 Tolerance
 cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : ± 6.0

rack travel mm : 10.35
Tolerance mm : ± 0.10

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 83.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 215.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 650

Rack travel in mm : 4.40
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.11.97
Test oil : ISO 4113
Combination No. : 0 402 076 759
Injection pump
Pump designation : PES6P120A720RS3322
EP type number : 0 412 026 764
Governor
Governor design. : RSV650...1250P8A567
Governor no. : 0 421 833 416

Cust. part No. : 87801592

Customer spec. information
Customer : FNH-GEOTECH
Power KW : 201.0

TEST BENCH REQUIREMENTS

Inlet Line : 4.2
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 2 417 413 086
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1 688 901 103
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test Lines : 1 680 750 089
Outside diameter : 8.0
x inside diameter : 3.0

H06

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75
Start of delivery blocking
Check
tolerance °NW : ± 0.30
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250
Rack travel in mm : 11.65
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 157.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 6.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 650

Rack travel in mm : 4.80
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 21.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Speed

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(D) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

governor spring
pre-tension
click setting x : 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250

Aneroid pressure
hPa : 1000

Del. quantity
cm³/1000 strokes : 157.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 6.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 109.0
tolerance degree : ± 4.0

RATED SPEED

Rated speed rpm : 1330
Tolerance 1/min : ± 15

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1293
rack travel mm : 10.65

Rated speed rpm : 1325
Tolerance 1/min : ± 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1500

Rated speed rpm : 1294
rack travel mm : 10.65

Rated speed rpm : 1326
Tolerance 1/min : ± 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1500

Rated speed rpm : 1295
rack travel mm : 10.65

Rated speed rpm : 1327
Tolerance 1/min : ± 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1500

Rated speed rpm : 1296
rack travel mm : 10.65

Rated speed rpm : 1328
Tolerance 1/min : + 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1500

Rated speed rpm : 1297
rack travel mm : 10.65

Rated speed rpm : 1329
Tolerance 1/min : + 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1500

Rated speed rpm : 1298
rack travel mm : 10.65

Rated speed rpm : 1330
Tolerance 1/min : + 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1500

LOW IDLE

control lever
position degree : 79.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 650
rack travel mm : 4.30
Tolerance mm : + 0.10

Testing:

Rated speed rpm : 650
rack travel mm : 4.80
Tolerance mm : + 0.10

H08

rack travel mm : 2.00
Rated speed rpm : 770
Tolerance 1/min : + 50

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 11.65
Tolerance mm : + 0.10

Rated speed rpm : 900
rack travel mm : 12.10
Tolerance mm : + 0.10

Rated speed rpm : 700
rack travel mm : 12.15
Tolerance mm : + 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 12.10
Tolerance mm : + 0.10

Rated speed rpm : 500
Pressure hPa : --
rack travel mm : 7.90
Tolerance mm : + 0.10

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 490
rack travel mm : 11.05
Tolerance mm : + 0.05

Start interlock

Rated speed rpm : > 100

Check
speed 1/min : > 80

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 176.0

Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

rack travel mm : 12.15
Tolerance mm : \pm 0.15

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 84.5
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 650
Rack travel in mm : 4.80
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 21.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.11.97
Test oil : ISO 4113

Combination No. : 0 402 076 762

Injection pump
Pump designation : PES6P12DA72GRS3322
EP type number : 0 412 026 764

Governor
Governor design. : RSV650...1250P8A567
: -1
Governor no. : 0 421 833 422

Cust. part No. : 87801597

Customer spec. information
Customer : FNM-GEOTECH
Power KW : 179.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 105
Tolerance l/h : ± 20.0

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery blocking

Check
tolerance °NW : ± 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 10.70
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 137.5

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 650

Rack travel in mm : 4.60
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 21.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : \pm 0.20

governor spring
pre-tension
click setting x : 3.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250

Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 137.5

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 111.0
tolerance degree : \pm 4.0

RATED SPEED

Rated speed rpm : 1330
Tolerance 1/min : \pm 15

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1293
rack travel mm : 9.65

Rated speed rpm : 1325
Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1500

Rated speed rpm : 1294
rack travel mm : 9.65

Rated speed rpm : 1326
Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1500

Rated speed rpm : 1295
rack travel mm : 9.65

Rated speed rpm : 1327
Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1500

Rated speed rpm : 1296
rack travel mm : 9.65

Rated speed rpm : 1328
Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1500

Rated speed rpm : 1297
rack travel mm : 9.65

Rated speed rpm : 1329
Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1500

Rated speed rpm : 1298
rack travel mm : 9.65

Rated speed rpm : 1330
Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1500

LOW IDLE

control lever
position degree : 80.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 650
rack travel mm : 4.10
Tolerance mm : \pm 0.10

Testing:

H12

Rated speed rpm : 650
rack travel mm : 4.60
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 750
Tolerance 1/min : \pm 50

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 10.70
Tolerance mm : \pm 0.05

Rated speed rpm : 900
rack travel mm : 11.10
Tolerance mm : \pm 0.10

Rated speed rpm : 1100
rack travel mm : 10.95
Tolerance mm : \pm 0.10

Rated speed rpm : 700
rack travel mm : 11.10
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 11.10
Tolerance mm : \pm 0.10

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 7.70
Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 630
rack travel mm : 10.75
Tolerance mm : \pm 0.05

Start interlock

Rated speed rpm : $>$ 100

Check
speed 1/min : $>$ 80

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 150.5
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Rack travel mm : 10.95
Tolerance mm : \pm 0.10

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 82.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 650

Rack travel in mm : 4.60
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 21.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

Edition : 26.11.97

Test oil : ISO 4113

Combination No. : 0 402 076 768

Injection pump

Pump designation : PES6P120A720RS322

EP type number : 0 412 026 764

Governor

Governer design. : RSV650...1250P8A567

: -2

Governer no. : 0 421 833 443

Cust. part No. : 87801594

Customer spec. information

Customer : FNH-GEOTECH

Motor : 7,5L - DI

Power KW : 190.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holde
assembly

: 1 688 901 103

Opening pressure
bar

: 208.5

Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : ± 1.0

Prestroke mm : 3.60

Tolerance mm : ± 0.05

Check

tolerance mm : ± 0.10

Rack travel in mm : 10.50

Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : ± 0.50

Check

tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 11.45

Tolerance mm : ± 0.05

Del. quantity

cm³/1000 strokes : 153.0

Tolerance

cm³/1000 strokes : ± 1.0

Check tolerance cm ³ /1000s.	: + 6.0
<hr/>	
Spread	
Tolerance cm ³ /1000 strokes	: 5.0
<hr/>	
Check tolerance cm ³ /1000s.	: 9.0
<hr/>	

Rated speed rpm	: 650
Rack travel in mm	: 4.80
Tolerance mm	: + 0.10
Del. quantity cm ³ /1000 strokes	: 21.0
Tolerance cm ³ /1000 strokes	: + 3.0
Check tolerance cm ³ /1000s.	: + 6.0
Spread	
Tolerance cm ³ /1000 strokes	: 8.0
Check tolerance cm ³ /1000s.	: 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree	: - 3
Rated speed rpm	: 800
Rack travel in mm	: 0.50
Tolerance mm	: + 0.20
governor spring pre-tension click setting x	: 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1200
Aneroid pressure hPa	: 1000
Del. quantity cm ³ /1000 strokes	: 153.0
Tolerance cm ³ /1000 strokes	: + 1.0

Check tolerance cm ³ /1000s.	: + 6.0
Spread	
Tolerance cm ³ /1000 strokes	: 5.0
Check tolerance cm ³ /1000s.	: 9.0

CONTROL LEVER

control lever position degree	: 109.0
tolerance degree	: + 4.0

RATED SPEED

Rated speed rpm	: 1300
Tolerance 1/min	: + 15

ASSEMBLY GOVERNOR SETTING

Rated speed rpm	: 1263
rack travel mm	: 10.45

Rated speed rpm	: 1295
Tolerance 1/min	: + 5
rack travel mm	: 4.00

rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1500

Rated speed rpm	: 1264
rack travel mm	: 10.45

Rated speed rpm	: 1296
Tolerance 1/min	: + 5
rack travel mm	: 4.00

rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1500

Rated speed rpm	: 1265
rack travel mm	: 10.45

Rated speed rpm	: 1297
Tolerance 1/min	: + 5
rack travel mm	: 4.00

rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1500

Rated speed rpm	: 1266
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rack travel mm : 10.45
 Rated speed rpm : 1298
 Tolerance 1/min : \pm 5
 rack travel mm : 4.00
 rack travel mm : 0.85
 Tolerance mm : \pm 0.55
 Rated speed rpm : 1500

Rated speed rpm : 1267
 rack travel mm : 10.45

Rated speed rpm : 1299
 Tolerance 1/min : \pm 5
 rack travel mm : 4.00

rack travel mm : 0.85
 Tolerance mm : \pm 0.55
 Rated speed rpm : 1500

Rated speed rpm : 1268
 rack travel mm : 10.45

Rated speed rpm : 1300
 Tolerance 1/min : \pm 5
 rack travel mm : 4.00

rack travel mm : 0.85
 Tolerance mm : \pm 0.55
 Rated speed rpm : 1500

LOW IDLE

control lever
 position degree : 80.0
 tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 650
 rack travel mm : 4.30
 Tolerance mm : \pm 0.10

Testing:

Rated speed rpm : 650
 rack travel mm : 4.80
 Tolerance mm : \pm 0.10

rack travel mm : 2.00
 Rated speed rpm : 770
 Tolerance 1/min : \pm 50

TORQUE CONTROL

Rated speed rpm : 1200
 rack travel mm : 11.45
 Tolerance mm : \pm 0.05

Rated speed rpm : 900
 rack travel mm : 11.80
 Tolerance mm : \pm 0.10

Rated speed rpm : 1100
 rack travel mm : 11.60
 Tolerance mm : \pm 0.10

Rated speed rpm : 700
 rack travel mm : 11.90
 Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : 1000
 rack travel mm : 11.90
 Tolerance mm : \pm 0.10

Rated speed rpm : 500
 Pressure hPa : -
 rack travel mm : 7.90
 Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 500
 Pressure hPa : 595
 rack travel mm : 11.45
 Tolerance mm : \pm 0.05

Start interlock

Rated speed rpm : $>$ 100
 Check
 speed 1/min : $>$ 80

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 1000
 Rated speed rpm : 900
 Del. quantity
 cm³/1000 strokes : 170.0
 Tolerance
 cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

rack travel mm : 11.60
Tolerance mm : \pm 0.10

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 83.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 215.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 650
Rack travel in mm : 4.80
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 21.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.11.97
Test oil : ISO 4113

Combination No. : 0 402 076 771

Injection pump
Pump designation : PES6P120A720RS3340
EP type number : 0 412 026 773

Governor
Governor design. : RSV650...1100P8A566
: -1
Governor no. : 0 421 333 452

Cust. part No. : 87801591

Customer spec. information
Customer : FMT-GEOTECH
Power KW : 201.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.60
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check
tolerance °Nw : + 0.75

Start of delivery blocking

Check
tolerance °NW : + 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1075

Rack travel in mm : 12.35

Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 183.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 650

Rack travel in mm : 4.60

Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 23.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : \pm 0.20

governor spring
pre-tension
click setting x : 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1075

Aneroid pressure
hPa : 1600

Del. quantity
cm³/1000 strokes : 183.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 97.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 4.00

Rated speed rpm : 1165

Tolerance 1/min : \pm 15

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1121
rack travel mm : 11.30

Rated speed rpm : 1152
Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1350

Rated speed rpm : 1122
rack travel mm : 11.30

Rated speed rpm : 1153
Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1350

Rated speed rpm : 1123
rack travel mm : 11.30

Rated speed rpm : 1154
Tolerance 1/min : \pm 5

rack travel mm : 4.00
rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1350

Rated speed rpm : 1124
rack travel mm : 11.30

Rated speed rpm : 1155
Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1350

Rated speed rpm : 1125
rack travel mm : 11.30

Rated speed rpm : 1156
Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1350

Rated speed rpm : 1126
rack travel mm : 11.30

Rated speed rpm : 1157
Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 78.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 650
rack travel mm : 4.10
Tolerance mm : \pm 0.10

Testing:

Rated speed rpm : 650
rack travel mm : 4.60

H2O

Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 750

TORQUE CONTROL

Rated speed rpm : 1075
rack travel mm : 12.35
Tolerance mm : \pm 0.05

Rated speed rpm : 800
rack travel mm : 13.15
Tolerance mm : \pm 0.10

Rated speed rpm : 700
rack travel mm : 13.20
Tolerance mm : \pm 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1600
rack travel mm : 13.20
Tolerance mm : \pm 0.15

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 7.60
Tolerance mm : \pm 0.15

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 1060
rack travel mm : 11.80
Tolerance mm : \pm 0.10

Start interlock

Rated speed rpm : $>$ 100

Check
speed 1/min : $>$ 80

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1600
Rated speed rpm : 800

Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

rack travel mm : 13.20
Tolerance mm : ± 0.15

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 83.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 650
Rack travel in mm : 4.60
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.11.97

Test oil : ISO 4113

Combination No. : 0 402 076 787

Injection pump

Pump designation : PES6P120A720RS3340

EP type number : 0 412 026 773

Governor

Governor design. : RSV400...1050POA602

Governor no. : 0 421 833 483

Cust. part No. : 87801595

Customer spec. information

Customer : FNH-GEOTECH

Motor : EPD40B

Power KW : 176.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Tolerance bar : ± 0.1

Overflow quantity

min. l/h : 100

Tolerance l/h : ± 20.0

Test nozzle holde assembly

: 1 688 901 103

Opening pressure bar

: 208.5

Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : ± 1.0

Prestroke mm : 3.60

Tolerance mm : ± 0.05

Check

tolerance mm : ± 0.10

Rack travel in mm : 10.50

Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-

: 4

Phasing : 0-60-120-180-240

: -390

Tolerance : ± 0.50

Check

tolerance °NW : ± 0.75

Start of delivery blocking

Check

tolerance °NW : ± 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.25
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 158.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 6.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 400

Rack travel in mm : 5.00
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 26.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Speed

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : + 0.20

governor spring
pre-tension
click setting x : 4.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050

Aneroid pressure
hPa : 1600

Del. quantity
cm³/1000 strokes : 158.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 6.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 94.0

RATED SPEED

rack travel mm : 0.85
Tolerance mm : + 0.55

Rated speed rpm : 1320

rack travel mm : 4.00

Rated speed rpm : 1165

Tolerance 1/min : + 15

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1093
rack travel mm : 10.20

Rated speed rpm : 1148
Tolerance 1/min : + 5

rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55

Rated speed rpm : 1320

Rated speed rpm : 1094
rack travel mm : 10.20

Rated speed rpm : 1149
Tolerance 1/min : + 5

rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55

Rated speed rpm : 1320

Rated speed rpm : 1095
rack travel mm : 10.20

Rated speed rpm : 1150
Tolerance 1/min : ± 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1320

Rated speed rpm : 1096
rack travel mm : 10.20

Rated speed rpm : 1151
Tolerance 1/min : ± 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1320

Rated speed rpm : 1097
rack travel mm : 10.20

Rated speed rpm : 1152
Tolerance 1/min : ± 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1320

Rated speed rpm : 1098
rack travel mm : 10.20

Rated speed rpm : 1153
Tolerance 1/min : ± 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1320

LOW IDLE

control lever
position degree : 73.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 4.50

H24

Tolerance mm : ± 0.10

Testing:

Rated speed rpm : 400
rack travel mm : 5.00
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 535
Tolerance 1/min : ± 50

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 11.25
Tolerance mm : ± 0.05

Rated speed rpm : 700
rack travel mm : 12.40
Tolerance mm : ± 0.05

Rated speed rpm : 600
rack travel mm : 12.50
Tolerance mm : ± 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1600
rack travel mm : 12.50
Tolerance mm : ± 0.10

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 8.10
Tolerance mm : ± 0.10

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 980
rack travel mm : 11.40
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1600
Rated speed rpm : 700

Del. quantity
cm³/1000 strokes : 196.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

rack travel mm : 12.50
Tolerance mm : ± 0.15

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 94.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 400
Rack travel in mm : 5.00
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 26.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.11.97
Test oil : ISO 4113

Combination No. : 0 402 076 788

Injection pump
Pump designation : PES6P120A720RS3340
EP type number : 0 412 026 773

Governor
Governor design. : RSV400...1050POA603
Governor no. : 0 421 833 484

Cust. part No. : 87801600

Customer spec. information
Customer : FMH-GEOTECH
Motor : EP 040 B
Power KW : 154.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 100
Tolerance l/h : ± 20.0

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery blocking

Check
tolerance °NW : ± 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 10.45
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 136.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 400

Rack travel in mm : 4.50
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 23.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : \pm 0.20

governor spring
pre-tension
click setting x : 5.00

H27

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050

Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 136.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 76.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 0.85
Tolerance mm : \pm 0.55

Rated speed rpm : 1320

rack travel mm : 4.00

Rated speed rpm : 1155

Tolerance 1/min : \pm 15

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1093
rack travel mm : 9.45

Rated speed rpm : 1153
Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1320

Rated speed rpm : 1094
rack travel mm : 9.45

Rated speed rpm : 1154
Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55

Rated speed rpm : 1320

Rated speed rpm : 1095
rack travel mm : 9.45

Rated speed rpm : 1155
Tolerance 1/min : ± 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1320

Rated speed rpm : 1096
rack travel mm : 9.45

Rated speed rpm : 1156
Tolerance 1/min : ± 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1320

Rated speed rpm : 1097
rack travel mm : 9.45

Rated speed rpm : 1157
Tolerance 1/min : ± 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1320

Rated speed rpm : 1098
rack travel mm : 9.45

Rated speed rpm : 1158
Tolerance 1/min : ± 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1320

LOW IDLE

control lever
position degree : 97.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

H28

Rated speed rpm : 400
rack travel mm : 5.00
Tolerance mm : ± 0.10

Testing:

Rated speed rpm : 400
rack travel mm : 4.50
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 535
Tolerance 1/min : ± 50

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 10.45
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 11.30
Tolerance mm : ± 0.10

Rated speed rpm : 600
rack travel mm : 11.35
Tolerance mm : ± 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 11.30
Tolerance mm : ± 0.10

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 8.10
Tolerance mm : ± 0.10

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 900
rack travel mm : 10.80
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500

Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 167.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

rack travel mm : 11.35
Tolerance mm : ± 0.15

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 92.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

STARTING FUEL DELIVERY

Check hydraulic start locking and
unlocking device with 500...1000 hPa.

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 400
Rack travel in mm : 4.50
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.11.97
Test oil : ISO 4113

Combination No. : 0 402 076 804

Injection pump
Pump designation : PES6P120A72ORS3340
EP type number : 0 412 026 773

Governor
Governor design. : RSV650...1100P8A566
: -2
Governor no. : 0 421 833 559

Cust. part No. : 87801598

Customer-spec. information
Customer : NH
Power KW : 162.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

J02

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery blocking

Check
tolerance °NW : ± 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1025

Rack travel in mm : 10.80

Tolerance mm	: ± 0.05
<hr/>	
Del. quantity cm ³ /1000 strokes	: 143.5
<hr/>	
Tolerance cm ³ /1000 strokes	: ± 1.0
<hr/>	
Check tolerance cm ³ /1000S.	: ± 6.0
<hr/>	
Spreed	
<hr/>	
Tolerance cm ³ /1000 strokes	: 5.0
<hr/>	
Check tolerance cm ³ /1000S.	: 9.0
<hr/>	

Rated speed rpm	: 650
<hr/>	
Rack travel in mm	: 4.70
Tolerance mm	: ± 0.10
Del. quantity cm ³ /1000 strokes	: 23.0
Tolerance cm ³ /1000 strokes	: ± 3.0
Check tolerance cm ³ /1000S.	: ± 6.0
<hr/>	
Spreed	
Tolerance cm ³ /1000 strokes	: 8.0
Check tolerance cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree	: - 3
Rated speed rpm	: 800
<hr/>	
Rack travel in mm	: 0.50
Tolerance mm	: ± 0.20
<hr/>	
governor spring pre-tension	
click setting x	: 3.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1025
Aneroid pressure hPa	: 1600
Del. quantity cm ³ /1000 strokes	: 143.5
Tolerance cm ³ /1000 strokes	: ± 1.0
Check tolerance cm ³ /1000S.	: ± 6.0
<hr/>	
Spreed Tolerance cm ³ /1000 strokes	: 5.0
Check tolerance cm ³ /1000S.	: 9.0

CONTROL LEVER

control lever position degree	: 95.0
tolerance degree	: ± 4.0

RATED SPEED

rack travel mm	: 4.00
Rated speed rpm	: 1105
Tolerance 1/min	: ± 15

ASSEMBLY GOVERNOR SETTING

Rated speed rpm	: 1072
rack travel mm	: 9.80
<hr/>	
Rated speed rpm	: 1100
Tolerance 1/min	: ± 5
rack travel mm	: 4.00
<hr/>	
rack travel mm	: 0.85
Tolerance mm	: ± 0.55
Rated speed rpm	: 1350

Rated speed rpm	: 1073
rack travel mm	: 9.80

Rated speed rpm	: 1101
Tolerance 1/min	: ± 5
rack travel mm	: 4.00

rack travel mm	: 0.85
Tolerance mm	: ± 0.55
Rated speed rpm	: 1350

Rated speed rpm	: 1074
rack travel mm	: 9.80

Rated speed rpm	: 1102
Tolerance 1/min	: ± 5

rack travel mm : 4.00
 rack travel mm : 0.85
 Tolerance mm : \pm 0.55
 Rated speed rpm : 1350

Rated speed rpm : 1075
 rack travel mm : 9.80

Rated speed rpm : 1103
 Tolerance 1/min : \pm 5
 rack travel mm : 4.00

rack travel mm : 0.85
 Tolerance mm : \pm 0.55
 Rated speed rpm : 1350

Rated speed rpm : 1076
 rack travel mm : 9.80

Rated speed rpm : 1104
 Tolerance 1/min : \pm 5
 rack travel mm : 4.00

rack travel mm : 0.85
 Tolerance mm : \pm 0.55
 Rated speed rpm : 1350

Rated speed rpm : 1077
 rack travel mm : 9.80

Rated speed rpm : 1105
 Tolerance 1/min : \pm 5
 rack travel mm : 4.00

rack travel mm : 0.85
 Tolerance mm : \pm 0.55
 Rated speed rpm : 1350

LOW IDLE

control lever
 position degree : 76.0
 tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 650
 rack travel mm : 4.20
 Tolerance mm : \pm 0.10

Testing:

Rated speed rpm : 650
 rack travel mm : 4.70

Tolerance mm : \pm 0.10

rack travel mm : 2.00
 Rated speed rpm : 760

TORQUE CONTROL

Rated speed rpm : 1025
 rack travel mm : 10.80
 Tolerance mm : \pm 0.05

Rated speed rpm : 800
 rack travel mm : 11.55
 Tolerance mm : \pm 0.10

Rated speed rpm : 700
 rack travel mm : 11.60
 Tolerance mm : \pm 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : 1600
 rack travel mm : 11.55
 Tolerance mm : \pm 0.15

Rated speed rpm : 500
 Pressure hPa : -
 rack travel mm : 7.60
 Tolerance mm : \pm 0.15

MEASUREMENT

Rated speed rpm : 500
 Pressure hPa : 840
 rack travel mm : 10.70
 Tolerance mm : \pm 0.10

Start interlock

Rated speed rpm : $>$ 100

Check
 speed 1/min : $>$ 80

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 1600
 Rated speed rpm : 800

Del. quantity
cm³/1000 strokes : 167.5
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

rack travel mm : 11.60
Tolerance mm : ± 0.15

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 80.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 650
Rack travel in mm : 4.70
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.05.97
Test oil : ISO 4113
Combination No. : 0 402 076 807
Injection pump
Pump designation : PES6P120A720RS3378
EP type number : 0 412 026 799
Governor
Governor design. : RSV450...1050P5A647
Governor no. : 0 421 833 564

Cust. part No. :

Customer spec. information
Customer : IVECO-FIAT
Motor : 8365.26.532
Power kW : 117.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 034

Inlet press. bar : 2.5

Overflow quantity
min. l/h : 260
Tolerance l/h : ± 20.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 8.55
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 115.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 450

Rack travel in mm : 4.60

Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spreed

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : + 0.20

governor spring
pre-tension
click setting x : 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 115.0
Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 113.0

RATED SPEED

rack travel mm : 7.40

Rated speed rpm : 1095

Tolerance 1/min : + 5

Check
speed 1/min : + 10

rack travel mm : 4.00

Rated speed rpm : 1125

Tolerance 1/min : + 15

rack travel mm : 0.85

Tolerance mm : + 0.55

Rated speed rpm : 1400

rack travel mm : 4.00

Rated speed rpm : 1130

Tolerance 1/min : + 15

Check
speed 1/min : + 20

LOW IDLE

control lever
position degree : 91.0

Setting point w/out bumper spring

Rated speed rpm : 450

rack travel mm : 4.10

Tolerance mm : + 0.10

Testing:

Rated speed rpm : 450

rack travel mm : 4.60

Tolerance mm : + 0.10

rack travel mm : 2.00

Rated speed rpm : 570

Tolerance 1/min : + 50

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 8.55
Tolerance mm : \pm 0.05

Rated speed rpm : 700
rack travel mm : 8.60
Tolerance mm : \pm 0.10

Rated speed rpm : 320
rack travel mm : 9.10
Tolerance mm : \pm 0.20

Rated speed rpm : 450
rack travel mm : 8.60
Tolerance mm : \pm 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -

Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 106.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

rack travel mm : 9.10
Tolerance mm : \pm 0.20

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 9.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 110.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 450

Rack travel in mm : 4.60
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.11.97
Test oil : ISO 4113

Combination No. : 0 402 076 810

Injection pump
Pump designation : PES6P120A720RS3340
EP type number : 0 412 026 773

Governor
Governor design. : RSV650...1050P8A566
: -4
Governor no. : 0 421 833 583

Cust. part No. : 87801590

Customer-spec. information
Customer : NH
Motor : EP 040 B
Power kW : 198.0

TEST BENCH REQUIREMENTS

Inlet Line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

J09

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery blocking

Check
tolerance °NW : ± 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1025

Rack travel in mm : 12.35

Tolerance mm	: + 0.05
<hr/>	
Del. quantity cm ³ /1000 strokes	: 183.0
<hr/>	
Tolerance cm ³ /1000 strokes	: + 1.0
<hr/>	
Check tolerance cm ³ /1000S.	: + 6.0
<hr/>	
Spread	
<hr/>	
Tolerance cm ³ /1000 strokes	: 5.0
<hr/>	
Check tolerance cm ³ /1000S.	: 9.0
<hr/>	

Rated speed rpm	: 650
<hr/>	
Rack travel in mm	: 4.60
Tolerance mm	: + 0.10
Del. quantity cm ³ /1000 strokes	: 23.0
Tolerance cm ³ /1000 strokes	: + 3.0
Check tolerance cm ³ /1000S.	: + 6.0
Spread	
Tolerance cm ³ /1000 strokes	: 8.0
Check tolerance cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree	: - 3
Rated speed rpm	: 800
<hr/>	
Rack travel in mm	: 0.50
Tolerance mm	: + 0.20
<hr/>	
governor spring pre-tension click setting x	: 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1025
Aneroid pressure hPa	: 1600
Del. quantity cm ³ /1000 strokes	: 183.0
Tolerance cm ³ /1000 strokes	: + 1.0
Check tolerance cm ³ /1000S.	: + 6.0
Spread	
Tolerance cm ³ /1000 strokes	: 5.0
Check tolerance cm ³ /1000S.	: 9.0

CONTROL LEVER

control lever position degree	: 95.0
----------------------------------	--------

ASSEMBLY GOVERNOR SETTING

Rated speed rpm	: 1067
rack travel mm	: 11.30
<hr/>	
Rated speed rpm	: 1097
Tolerance 1/min	: + 5
rack travel mm	: 4.00
<hr/>	
rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1300

Rated speed rpm	: 1068
rack travel mm	: 11.30

Rated speed rpm	: 1098
Tolerance 1/min	: + 5
rack travel mm	: 4.00

rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1300

Rated speed rpm	: 1069
rack travel mm	: 11.30

Rated speed rpm	: 1099
Tolerance 1/min	: + 5
rack travel mm	: 4.00

rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1300

Rated speed rpm : 1070
rack travel mm : 11.30

Rated speed rpm : 1100
Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1300

Rated speed rpm : 1071
rack travel mm : 11.30

Rated speed rpm : 1101
Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1300

Rated speed rpm : 1072
rack travel mm : 11.30

Rated speed rpm : 1102
Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 76.0

Setting point w/out bumper spring

Rated speed rpm : 650
rack travel mm : 4.10
Tolerance mm : \pm 0.10

Testing:

Rated speed rpm : 650
rack travel mm : 4.60
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 750

TORQUE CONTROL

Rated speed rpm : 1025
rack travel mm : 12.35
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 13.05
Tolerance mm : \pm 0.10

Rated speed rpm : 650
rack travel mm : 13.10
Tolerance mm : \pm 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1600
rack travel mm : 13.10
Tolerance mm : \pm 0.15

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 7.80
Tolerance mm : \pm 0.15

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 980
rack travel mm : 11.60
Tolerance mm : \pm 0.10

Start interlock

Rated speed rpm : $>$ 100

Check
speed 1/min : $>$ 80

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1600
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

rack travel mm : 13.10
Tolerance mm : \pm 0.15

Aneroid pressure

hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 86.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 650

Rack travel in mm : 4.60
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.11.97

Test oil : ISO 4113

Combination No. : 0 402 076 816

Injection pump

Pump designation : PES6P120A720RS3340

EP type number : 0 412 026 773

Governor

Governor design. : RSV650...1100P8A566

: -5

Governor no. : 0 421 833 601

Cust. part No. : 87801596

Customer-spec. information

Customer : NH

Power kW : 177.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Overflow quantity

min. l/h : 120

Tolerance l/h : ± 20.0

Test nozzle holder assembly

: 1 688 901 103

Opening pressure

bar : 208.5

Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : ± 1.0

Prestroke mm : 3.60

Tolerance mm : ± 0.05

Check

tolerance mm : ± 0.10

Rack travel in mm : 10.50

Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : ± 0.50

Check

tolerance °NW : ± 0.75

Start of delivery blocking

Check

tolerance °NW : ± 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1025

Rack travel in mm : 11.45
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 159.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 6.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 650

Rack travel in mm : 4.60
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 23.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Speed

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : + 0.20

governor spring
pre-tension
click setting x : 3.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1025
Aneroid pressure
hPa : 1600
Del. quantity
cm³/1000 strokes : 159.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 6.0
Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 97.0

RATED SPEED

rack travel mm : 4.00
Rated speed rpm : 1100
Tolerance 1/min : + 15

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1067
rack travel mm : 10.40

Rated speed rpm : 1097
Tolerance 1/min : + 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1250

Rated speed rpm : 1068
rack travel mm : 10.40

Rated speed rpm : 1098
Tolerance 1/min : + 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1250

Rated speed rpm : 1069
rack travel mm : 10.40

Rated speed rpm : 1099
Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1250

Rated speed rpm : 1070
rack travel mm : 10.40

Rated speed rpm : 1100
Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1250

Rated speed rpm : 1071
rack travel mm : 10.40

Rated speed rpm : 1101
Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1250

Rated speed rpm : 1072
rack travel mm : 10.40

Rated speed rpm : 1102
Tolerance 1/min : \pm 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 79.0

Setting point w/out bumper spring

Rated speed rpm : 650
rack travel mm : 4.10
Tolerance mm : \pm 0.10

Testing:

J15

Rated speed rpm : 650
rack travel mm : 4.60
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 700

TORQUE CONTROL

Rated speed rpm : 1025
rack travel mm : 11.45
Tolerance mm : \pm 0.05

Rated speed rpm : 800
rack travel mm : 12.30
Tolerance mm : \pm 0.10

Rated speed rpm : 750
rack travel mm : 12.35
Tolerance mm : \pm 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1600
rack travel mm : 12.30
Tolerance mm : \pm 0.15

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 7.80
Tolerance mm : \pm 0.15

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 1050
rack travel mm : 11.50
Tolerance mm : \pm 0.10

Start interlock

Rated speed rpm : $>$ 100

Check
speed 1/min : $>$ 80

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1600

Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 185.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

rack travel mm : 12.35
Tolerance mm : ± 0.15

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 86.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 140.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 650
Rack travel in mm : 4.60
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.03.98
Test oil : ISO 4113
Combination No. : 0 402 086 702
Injection pump
Pump designation : PES6P100B321RS3388
EP type number : 0 412 006 714
Governor
Governor design. : RSV400...1125POA674
Governor no. : 0 421 833 592

Cust. part No. : 51.11103-7564

Customer spec. information

Customer : MAN
Motor : D0826 LE531
Power KW : 191.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 150
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.30
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 15.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °Nw : ± 0.75

Start of delivery blocking
Tolerance : ± 0.10
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 925

Rack travel in mm : 14.10
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 174.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Speed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.0

Rated speed rpm : 400

Rack travel in mm : 4.90
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 25.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Speed

Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : + 0.20

governor spring
pre-tension
click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 925
Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 174.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Speed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.0

CONTROL LEVER

control lever
position degree : 104.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 12.60
Rated speed rpm : 1175
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1265
Tolerance 1/min : + 15

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1400

rack travel mm : 4.00
Rated speed rpm : 1270
Tolerance 1/min : + 15

LOW IDLE

control lever
position degree : 80.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 4.40
Tolerance mm : + 0.10

Testing:

Rated speed rpm : 400
rack travel mm : 4.90
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 500
Tolerance 1/min : \pm 30

TORQUE CONTROL

Rated speed rpm : 925
rack travel mm : 14.10
Tolerance mm : \pm 0.05

Rated speed rpm : 1125
rack travel mm : 13.60
Tolerance mm : \pm 0.05

Rated speed rpm : 700
rack travel mm : 14.15
Tolerance mm : \pm 0.10

Rated speed rpm : 1025
rack travel mm : 13.95
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 14.10
Tolerance mm : \pm 0.15

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 9.45
Tolerance mm : \pm 0.15

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 150
rack travel mm : 9.75
Tolerance mm : \pm 0.05

Pressure hPa : 800
rack travel mm : 13.05
Tolerance mm : \pm 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 1125
Del. quantity
cm³/1000 strokes : 161.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : 1500
Rated speed rpm : 700
rack travel mm : 14.15
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 187.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 91.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 9.45
Tolerance mm : \pm 0.45
Del. quantity
cm³/1000 strokes : 112.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 400
Rack travel in mm : 4.90
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.03.98
Test oil : ISO 4113
Combination No. : 0 402 086 704
Injection pump
Pump designation : PES6P100B321RS3388
EP type number : 0 412 006 714
Governor
Governor design. : RSV400...1125POA693
Governor no. : 0 421 833 616

Cust. part No. : 51.11103-7607

Customer-spec. information

Customer : MAN
Motor : D0826 LE531
Power KW : 191.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Overflow quantity min. L/h : 150
Tolerance L/h : ± 10.0

Test nozzle holder assembly : 1 688 901 101

Opening pressure bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.30
Tolerance mm : ± 0.05
Check tolerance mm : ± 0.10

Rack travel in mm : 13.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check tolerance °NW : ± 0.75

Start of delivery blocking

Tolerance : ± 0.10
Check tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 925

Rack travel in mm : 14.10
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 174.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.0

Rated speed rpm : 400

Rack travel in mm : 4.90
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 25.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed

Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3

governor spring
pre-tension
click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 925

Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 174.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.0

RATED SPEED
rack travel mm : 12.60
Rated speed rpm : 1175
Tolerance 1/min : \pm 5

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1400

rack travel mm : 4.00
Rated speed rpm : 1270
Tolerance 1/min : \pm 15

LOW IDLE

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 4.40
Tolerance mm : \pm 0.10

Testing:

Rated speed rpm : 400
rack travel mm : 4.90
Tolerance mm : \pm 0.10

TORQUE CONTROL

Rated speed rpm : 925
rack travel mm : 14.10
Tolerance mm : \pm 0.05

Rated speed rpm : 1125
rack travel mm : 13.60
Tolerance mm : \pm 0.05

Rated speed rpm : 700
rack travel mm : 14.15
Tolerance mm : \pm 0.10

Rated speed rpm : 1025

rack travel mm : 13.95
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 14.10
Tolerance mm : \pm 0.15

Rated speed rpm : 500
Pressure hPa :
rack travel mm : 9.45
Tolerance mm : \pm 0.15

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 150
rack travel mm : 9.75
Tolerance mm : \pm 0.05

Pressure hPa : 800
rack travel mm : 13.05
Tolerance mm : \pm 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 1125
Del. quantity
cm³/1000 strokes : 161.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : 1500
Rated speed rpm : 700
rack travel mm : 14.15
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 187.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa :
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 91.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 9.45
Tolerance mm : \pm 0.45
Del. quantity
cm³/1000 strokes : 112.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 400

Rack travel in mm : 4.90
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.03.98
Test oil : ISO 4113

Combination No. : 0 402 086 705

Injection pump
Pump designation : PES6P100B321RS3388
EP type number : 0 412 006 714

Governor
Governor design. : RSV400...1125POA694
Governor no. : 0 421 833 617

Cust. part No. : 51.10100-7377

Customer spec. information

Customer : MAN
Motor : D0826 LE527
Power kW : 169.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 150
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.30
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 13.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery blocking

Tolerance : ± 0.10
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 925

Rack travel in mm : 13.90
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 169.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.0

Rated speed rpm : 400

Rack travel in mm : 4.80
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 25.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed

Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3

governor spring
pre-tension
click setting x : 5.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 925

Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 169.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.0

RATED SPEED

rack travel mm : 12.10

Rated speed rpm : 1175

Tolerance 1/min : \pm 5

rack travel mm : 0.85

Tolerance mm : \pm 0.55

Rated speed rpm : 1400

LOW IDLE

Setting point w/out bumper spring

Rated speed rpm : 400

rack travel mm : 4.30

Tolerance mm : \pm 0.10

Testing:

Rated speed rpm : 400

rack travel mm : 4.80

Tolerance mm : \pm 0.10

TORQUE CONTROL

Rated speed rpm : 925

rack travel mm : 13.90

Tolerance mm : \pm 0.05

Rated speed rpm : 1125

rack travel mm : 13.10

Tolerance mm : \pm 0.10

Rated speed rpm : 700

rack travel mm : 14.00

Tolerance mm : \pm 0.10

Rated speed rpm : 1000

rack travel mm : 13.70

Tolerance mm : \pm 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 14.00
Tolerance mm : \pm 0.10

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 9.50
Tolerance mm : \pm 0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 150
rack travel mm : 10.00
Tolerance mm : \pm 0.05

Pressure hPa : 800
rack travel mm : 13.20
Tolerance mm : \pm 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 1125
Del. quantity
cm³/1000 strokes : 146.5
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : 1500
Rated speed rpm : 700
rack travel mm : 14.00
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 180.5
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 90.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 9.50
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 112.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 400

Rack travel in mm : 4.80
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.09.94
Test oil : ISO 4113

Combination No. : 0 402 638 807

Injection pump
Pump designation : PE8P120A120LS7127
EP type number : 0 412 628 817

Governor
Governor design. : RQ300/1100PA134-3
Governor no. : 0 421 801 655

Cust. part No. :

Customer spec. information
Customer : SNF
Motor : WD 815.72/73

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.15
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 8.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 4- 8- 6
 : - 3- 7- 2

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °MM : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Del. quantity
cm³/1000 strokes : 134.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000s. : ± 4.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.60
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1156
guide sleeve
travel mm : 6.44
Tolerance mm : ± 0.10

Rated speed rpm : 300
guide sleeve
travel mm : 1.55
Tolerance mm : ± 0.10

Rated speed rpm : 1100
guide sleeve
travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 427
guide sleeve
travel mm : 4.88
Tolerance mm : ± 0.10

Rated speed rpm : 510
guide sleeve
travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 1310
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 600

Rack travel in mm : 16.00
Tolerance mm : ± 0.60

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 500
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 134.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 109.0
tolerance degree : ± 4.0

RATED SPEED
rack travel mm : 13.30
Rated speed rpm : 1153
Tolerance 1/min : ± 8

rack travel mm : 4.00
Rated speed rpm : 1245
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 79.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 200
CRT mm min. : > 8.00

Testing:

Rated speed rpm : 300
rack travel mm : 6.60
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 420
Tolerance 1/min : \pm 20

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 14.55
Tolerance mm : \pm 0.15

Rated speed rpm : 500
rack travel mm : 14.55
Tolerance mm : \pm 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 14.55
Tolerance mm : \pm 0.15

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.15
Tolerance mm : \pm 0.05

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 490
rack travel mm : 11.25
Tolerance mm : \pm 0.10

Pressure hPa : 790
rack travel mm : 13.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

K01

Aneroid pressure

hPa : 1500
Rated speed rpm : 1100
Del. quantity
cm³/1000 strokes : 214.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Speed
Tolerance
cm³/1000 strokes : 12.0
Check tolerance
cm³/1000S. : 15.0

Aneroid pressure

hPa : 1500
Rated speed rpm : 500
rack travel mm : 14.55
Tolerance mm : \pm 0.15
Del. quantity
cm³/1000 strokes : 238.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 16.00
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 195.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 6.60
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.08.94
Test oil : ISO 4113

Combination No. : 0 402 640 843

Injection pump
Pump designation : PE12P120A520LS7877
EP type number : 0 412 620 840

Governor
Governor design. : RQ750PA1158
Governor no. : 0 421 801 727

Cust. part No. : 51.11103-7282

Customer-spec. information
Customer : MAN
Motor : D2842LE201
Power KW : 532.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

K03

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 12- 1- 5- 9- 8
: - 3- 4- 11- 10
: - 2- 6- 7

Phasing : 0-45-60-105-120
: -165-180-225-240
: -285-300-345
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 12

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 14.80
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 350.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

Rated speed rpm : 300

Del. quantity
cm³/1000 strokes : 17.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread

Tolerance
cm³/1000 strokes : 10.0

Check tolerance
cm³/1000S. : 14.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 758
guide sleeve
travel mm : 3.24
Tolerance mm : + 0.25

Rated speed rpm : 490
guide sleeve
travel mm : -11.08
Tolerance mm : + 0.25

Rated speed rpm : 850
guide sleeve
travel mm : 17.35
Tolerance mm : + 0.25

Rated speed rpm : 811
guide sleeve
travel mm : 10.00
Tolerance mm : + 0.25

Rated speed rpm : 870
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 350.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

CONTROL LEVER

control lever
position degree : 88.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 900

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750
rack travel mm : 13.80

Rated speed rpm : 787
Tolerance 1/min : + 4
rack travel mm : 4.00

Rated speed rpm : 751
rack travel mm : 13.80

Rated speed rpm : 788
Tolerance 1/min : + 4
rack travel mm : 4.00

Rated speed rpm : 752
rack travel mm : 13.80

Rated speed rpm : 789
Tolerance 1/min : + 4
rack travel mm : 4.00

Rated speed rpm : 753

rack travel mm : 13.80

Rated speed rpm : 790
Tolerance 1/min : \pm 4
rack travel mm : 4.00

Rated speed rpm : 754
rack travel mm : 13.80

Rated speed rpm : 791
Tolerance 1/min : \pm 4
rack travel mm : 4.00

Rated speed rpm : 755
rack travel mm : 13.80

Rated speed rpm : 792
Tolerance 1/min : \pm 4
rack travel mm : 4.00

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 14.80
Tolerance mm : \pm 0.05

LOW IDLE

Rated speed rpm : 300
Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.11.93
Test oil : ISO 4113
Combination No. : 0 402 646 600
Injection pump
Pump designation : PE6P120A720RS7022
EP type number : 0 412 626 873

Governor
Governor design. : RQV200...1000PA539
: -14
Governor no. : 0 421 814 011

Cust. part No. : 1343250

Customer spec. information
Customer : SCANIA
Motor : DS11 76

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration
damper
(RoBo diaphragm) : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

K06

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.45
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Tolerance : ± 0.10
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 250

Rack travel in mm : 4.70
 Tolerance mm : \pm 0.10
 Del. quantity
 cm³/1000 strokes : 17.0
 Tolerance
 cm³/1000 strokes : \pm 2.0
 Check tolerance
 cm³/1000S. : \pm 5.0
 Spread
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1050

Rack travel in mm : 16.50
 Tolerance mm : \pm 1.30

CONTROL LEVER

control lever
 position degree : 64.0
 tolerance degree : \pm 4.0

control lever
 position degree : 116.0
 tolerance degree : \pm 4.0

RATED SPEED
 rack travel mm : 9.90
 Rated speed rpm : 1045
 Tolerance 1/min : \pm 5

rack travel mm : 4.00
 Rated speed rpm : 1130
 Tolerance 1/min : \pm 15

rack travel mm : 0.50
 Tolerance mm : \pm 0.50
 Rated speed rpm : 1250

LOW IDLE

K07

control lever
 position degree : 67.0
 tolerance degree : \pm 4.0

control lever
 position degree : 23.0
 tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 150

CRT mm min. : $>$ 6.20

Testing:

Rated speed rpm : 250
 rack travel mm : 4.70
 Tolerance mm : \pm 0.10

rack travel mm : 2.00
 Rated speed rpm : 420
 Tolerance 1/min : \pm 30

TORQUE CONTROL

Rated speed rpm : 1000
 rack travel mm : 10.95
 Tolerance mm : \pm 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : 1500
 rack travel mm : 10.95
 Tolerance mm : \pm 0.05

Rated speed rpm : 500
 Pressure hPa : -
 rack travel mm : 10.10
 Tolerance mm : \pm 0.20

MEASUREMENT

Rated speed rpm : 500
 Pressure hPa : 340
 rack travel mm : 10.30
 Tolerance mm : \pm 0.15

Pressure hPa : 390
 rack travel mm : 10.65

Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 170.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 144.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.10
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 250
Rack travel in mm : 4.70
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Speed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.11.93
Test oil : ISO 4113
Combination No. : 0 402 646 607
Injection pump
Pump designation : PE6P130A720RS7270
EP type number : 0 412 636 821
Governor
Governor design. : RQV300...950PA946-4
Governor no. : 0 421 814 026

Cust. part No. :

Customer spec. information
Customer : IVECO-UNIC
Motor : 8210.42P.032

TEST BENCH REQUIREMENTS

Inlet line : 4.2
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Test nozzle holder
assembly : 1 688 901 105
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 075
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 5.05
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 14.00
Tolerance mm : ± 0.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 950
Rack travel in mm : -11.35
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 212.0
Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 8.0

Rated speed rpm : 275

Rack travel in mm : 4.70

Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 22.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Speed

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1060

Rack travel in mm : 10.30
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 950
Aneroid pressure
hPa : 1000

Del. quantity
cm³/1000 strokes : 212.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 8.0

CONTROL LEVER

control lever
position degree : 121.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.30

Rated speed rpm : 995

Tolerance 1/min : + 5

rack travel mm : 4.00

Rated speed rpm : 1060

Tolerance 1/min : + 15

rack travel mm : 0.50

Tolerance mm : + 0.50

Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 77.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. : > 6.90

Testing:

Rated speed rpm : 275

rack travel mm : 4.70

Tolerance mm : + 0.10

Rated speed rpm : 338

TORQUE CONTROL

Rated speed rpm : 950

rack travel mm : -11.35

Tolerance mm : + 0.05

Rated speed rpm : 550

rack travel mm : 11.40

Tolerance mm : + 0.10

Rated speed rpm : 500

rack travel mm : 8.00

Tolerance mm : \pm 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 550
Pressure hPa : 1000
rack travel mm : 11.35
Tolerance mm : \pm 0.05

Rated speed rpm : 550
Pressure hPa : -
rack travel mm : 10.40
Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 550
Pressure hPa : 260
rack travel mm : 10.70
Tolerance mm : \pm 0.10

Pressure hPa : 300
rack travel mm : 11.05
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 216.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
rack travel mm : 8.00
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 125.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0
Speed

Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

Aneroid pressure
hPa : -
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 185.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

ESS test: With 24 V solenoid activated,
rack must reach start position in max.
control lever setting.

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 275
Rack travel in mm : 4.70
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 22.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.05.97

Test oil : ISO 4113

Combination No. : 0 402 646 608

Injection pump

Pump designation : PE6P120A720RS7188

: -10J

EP type number : 0 412 626 926

Governor

Governer design. : RQ200/950PA745-3

Governer no. : 0 421 801 579

Cust. part No. : 1344920

Customer spec. information

Customer : SCANIA

Motor : DSC 11 71

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration

dampener

(RoBo diaphragm) : 3.1

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5

Tolerance bar : ± 0.1

Overflow quantity

min. l/h : 235

Tolerance l/h : ± 20.0

Test nozzle holde

assembly : 1 688 901 104

Opening pressure

bar : 251.5

Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : ± 1.0

Prestroke mm : 4.45

Tolerance mm : ± 0.05

Check

tolerance mm : ± 0.10

Rack travel in mm : 10.50

Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : ± 0.50

Check

tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 10.75
Tolerance mm : \pm 0.05

Rated speed rpm : 250

Rack travel in mm : 4.70
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1006
guide sleeve
travel mm : 4.90
Tolerance mm : \pm 0.15

Rated speed rpm : 250
guide sleeve
travel mm : 1.41
Tolerance mm : \pm 0.20

Rated speed rpm : 930
guide sleeve
travel mm : 4.50
Tolerance mm : \pm 0.10

Rated speed rpm : 355
guide sleeve
travel mm : 2.97
Tolerance mm : \pm 0.10

Rated speed rpm : 520
guide sleeve
travel mm : 4.50
Tolerance mm : \pm 0.10

Rated speed rpm : 1045
guide sleeve
travel mm : 5.50
Tolerance mm : \pm 0.10

Rated speed rpm : 1360
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
position degree : 104
Rated speed rpm : 600

Rack travel in mm : 16.50
Tolerance mm : \pm 1.30

CONTROL LEVER

control lever
position degree : 42.0
tolerance degree : \pm 4.0

control lever
position degree : 96.0
tolerance degree : \pm 4.0

RATED SPEED
rack travel mm : 9.70
Rated speed rpm : 1050
Tolerance 1/min : \pm 5
Check
speed 1/min : \pm 10

rack travel mm : 4.00
Rated speed rpm : 1135
Tolerance 1/min : \pm 15
Check
speed 1/min : \pm 20

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 62.0
tolerance degree : \pm 4.0

control lever
position degree : 8.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 150
CRT mm min. : $>$ 6.00

Testing:

Rated speed rpm : 250
rack travel mm : 4.70
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 340
Tolerance 1/min : \pm 20

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 10.75
Tolerance mm : \pm 0.05

Rated speed rpm : 950
rack travel mm : 10.75
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 10.75
Tolerance mm : \pm 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.75
Tolerance mm : \pm 0.05

MEASUREMENT

Rated speed rpm : 500

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 950

K15

Del. quantity
cm³/1000 strokes : 158.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 6.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.75
Tolerance mm : \pm 0.05
Del. quantity
cm³/1000 strokes : 170.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 250

Rack travel in mm : 4.70
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 01.10.93

Test oil : ISO 4113

Combination No. : 0 402 646 629

Injection pump

Pump designation : PE6P120A320LS7278

EP type number : 0 412 626 880

Governor

Governor design. : RQV325...1000PA1058

: -2

Governor no. : 0 421 814 061

Cust. part No. :

Customer-spec. information

Customer : LIAZ

Motor : M636S

Power KW : 170.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Overflow quantity

min. L/h : 120

Tolerance L/h : ± 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5

Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : ± 1.0

Prestroke mm : 5.00

Tolerance mm : ± 0.05

Check

tolerance mm : ± 0.10

Rack travel in mm : 10.50

Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : ± 0.30

Check

tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Del. quantity

cm³/1000 strokes : 184.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 325

Del. quantity
cm³/1000 strokes : 22.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spreed

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1056
guide sleeve
travel mm : 8.66
Tolerance mm : + 0.15

Rated speed rpm : 325
guide sleeve
travel mm : 1.55
Tolerance mm : + 0.20

Rated speed rpm : 764
guide sleeve
travel mm : 5.77
Tolerance mm : + 0.25

Rated speed rpm : 404
guide sleeve
travel mm : 2.41
Tolerance mm : + 0.25

Rated speed rpm : 500
guide sleeve
travel mm : 3.35
Tolerance mm : + 0.25

Rated speed rpm : 1270
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1135

Rack travel in mm : 9.70
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 184.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spreed

Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 64.0
tolerance degree : + 4.0

control lever
position degree : 117.0
tolerance degree : + 4.0

RATED SPEED
rack travel mm : 9.65
Rated speed rpm : 1045
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1125
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 65.0
tolerance degree : \pm 4.0

control lever
position degree : 9.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 225

CRT ~~mm~~ min. : $>$ 6.10

Testing:

Rated speed rpm : 350

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 10.65
Tolerance mm : \pm 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 8.20
Tolerance mm : \pm 0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 365
rack travel mm : 9.05
Tolerance mm : \pm 0.20

Pressure hPa : 590
rack travel mm : 10.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 143.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 325.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 325
Del. quantity
cm³/1000 strokes : 22.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.10.93
Test oil : ISO 4113

Combination No. : 0 402 646 631

Injection pump
Pump designation : PE6P120A720RS7307
EP type number : 0 412 626 905

Governor
Governor design. : RQ300/1100PA1095
Governor no. : 0 421 801 693

Cust. part No. : 615.60.08.0279

Customer-spec. information

Customer : SNF
Motor : WD615.48/49

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 180
Tolerance l/h : ± 20.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.35
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.65
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 229.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 7.20
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 21.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Spread

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1150
guide sleeve
travel mm : 6.37
Tolerance mm : ± 0.10

Rated speed rpm : 300
guide sleeve
travel mm : 1.75
Tolerance mm : ± 0.10

Rated speed rpm : 1100
guide sleeve
travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 426
guide sleeve
travel mm : 5.04

Tolerance mm : ± 0.10

Rated speed rpm : 500
guide sleeve
travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 1280
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
position degree : 109
Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 229.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 94.0
tolerance degree : ± 4.0

RATED SPEED
rack travel mm : 11.60
Rated speed rpm : 1145
Tolerance 1/min : ± 8

rack travel mm : 4.00
Rated speed rpm : 1200
Tolerance 1/min : ± 15

rack travel mm : 0.70
Tolerance mm : ± 0.70

Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 75.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 200
CRT mm min. : $>$ 9.40

Testing:

Rated speed rpm : 300
rack travel mm : 7.20
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 415
Tolerance 1/min : \pm 20

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.65
Tolerance mm : \pm 0.05

Rated speed rpm : 650
rack travel mm : 12.65
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 12.65
Tolerance mm : \pm 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.60
Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 725

rack travel mm : 12.00
Tolerance mm : \pm 0.10

Pressure hPa : 450
rack travel mm : 11.00
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 247.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 158.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.60
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 105.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 7.20
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 21.0
Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
ca3/1000S. : + 6.0
Speed
Tolerance
ca3/1000 strokes : 8.0
Check tolerance
ca3/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.06.95
Test oil : ISO 4113

Combination No. : 0 402 646 634

Injection pump
Pump designation : PE6P120A720RS7188
: -10
EP type number : 0 412 626 924

Governor
Governor design. : RQ200...950PA745-5
Governor no. : 0 421 801 695

Cust. part No. : 1356404

Customer spec. information
Customer : SCANIA
Motor : DSC 11 73

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration
damper
(RoBo diaphragm) : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.45
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 250

Rack travel in mm : 4.70
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : + 6.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1006
guide sleeve
travel mm : 4.90
Tolerance mm : + 0.15

Rated speed rpm : 250
guide sleeve
travel mm : 1.41
Tolerance mm : + 0.20

Rated speed rpm : 930
guide sleeve
travel mm : 4.50
Tolerance mm : + 0.10

Rated speed rpm : 355
guide sleeve
travel mm : 2.97
Tolerance mm : + 0.10

Rated speed rpm : 520
guide sleeve
travel mm : 4.50
Tolerance mm : + 0.10

Rated speed rpm : 1045
guide sleeve
travel mm : 5.50
Tolerance mm : + 0.10

Rated speed rpm : 1360
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
position degree : 109
Rated speed rpm : 500

Rack travel in mm : 20.00
Tolerance mm : + 0.80

CONTROL LEVER

control lever
position degree : 43.0
tolerance degree : + 4.0

control lever
position degree : 97.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.20
Rated speed rpm : 995
Tolerance 1/min : + 5
Check
speed 1/min : + 10

rack travel mm : 4.00
Rated speed rpm : 1125
Tolerance 1/min : + 15
Check
speed 1/min : + 20

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 65.0
tolerance degree : + 4.0

control lever
position degree : 11.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 150

CRT mm min. : > 6.00

Testing:

Rated speed rpm : 250
rack travel mm : 4.70
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 340
Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 11.25
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 12.25
Tolerance mm : \pm 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.40
Tolerance mm : \pm 0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 210
rack travel mm : 10.60
Tolerance mm : \pm 0.15

Pressure hPa : 270
rack travel mm : 11.05
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 179.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 153.0
Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.40
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 165.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 250

Rack travel in mm : 4.70
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.10.93
Test oil : ISO 4113

Combination No. : 0 402 646 635

Injection pump
Pump designation : PE6P120A720RS7307
EP type number : 0 412 626 905

Governor
Governor design. : RGV300...1100PA1100
Governor no. : 0 421 814 074

Cust. part No. : 615.60.08.0280

Customer spec. information
Customer : SNF
Motor : WD615.48/49
Power KW : 265.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 180
Tolerance l/h : ± 20.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.35
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.65
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 229.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000s. : + 4.0

Spreed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000s. : 9.0

Rated speed rpm : 300

Rack travel in mm : 7.20
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 21.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000s. : + 6.0

Spreed

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000s. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1270

Rack travel in mm : 11.60
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 229.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000s. : + 4.0

K27

Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000s. : 9.0

CONTROL LEVER

control lever
position degree : 119.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.60
Rated speed rpm : 1145
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1265
Tolerance 1/min : + 15

rack travel mm : 0.70
Tolerance mm : + 0.70
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 87.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 9.40

Testing:

Rated speed rpm : 300
rack travel mm : 7.20
Tolerance mm : + 0.10

Rated speed rpm : 380

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.65
Tolerance mm : + 0.05

Rated speed rpm : 650
rack travel mm : 12.65
Tolerance mm : + 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 12.65
Tolerance mm : \pm 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.60
Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 725
rack travel mm : 12.00
Tolerance mm : \pm 0.10

Pressure hPa : 450
rack travel mm : 11.00
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 247.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 158.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.70
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 105.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 7.20
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 21.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.10.93
Test oil : ISO 4113

Combination No. : 0 402 646 636

Injection pump
Pump designation : PE6P120A320LS7278
EP type number : 0 412 626 880

Governor
Governor design. : RQV325...1000PA1058
: -3
Governor no. : 0 421 814 072

Cust. part No. :

Customer spec. information
Customer : LIAZ
Motor : ML637S
Power KW : 190.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 743 089

Outside diameter : 8.0

L01

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.10
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 325
Rack travel in mm : 5.30
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 20.0

Tolerance
 cm3/1000 strokes : + 3.0
 Check tolerance
 cm3/1000S. : + 6.0
 Spreed
 Tolerance
 cm3/1000 strokes : 8.0
 Check tolerance
 cm3/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1057
 guide sleeve
 travel mm : 8.68
 Tolerance mm : + 0.15

Rated speed rpm : 325
 guide sleeve
 travel mm : 1.55
 Tolerance mm : + 0.20

Rated speed rpm : 764
 guide sleeve
 travel mm : 5.77
 Tolerance mm : + 0.25

Rated speed rpm : 354
 guide sleeve
 travel mm : 1.90
 Tolerance mm : + 0.25

Rated speed rpm : 404
 guide sleeve
 travel mm : 2.41
 Tolerance mm : + 0.25

Rated speed rpm : 500
 guide sleeve
 travel mm : 3.35
 Tolerance mm : + 0.25

Rated speed rpm : 1270
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1100

Rack travel in mm : 12.30
 Tolerance mm : + 1.30

CONTROL LEVER

control lever
 position degree : 66.0
 tolerance degree : + 4.0

control lever
 position degree : 120.0
 tolerance degree : + 4.0

RATED SPEED
 rack travel mm : 12.40
 Rated speed rpm : 1045
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 1160
 Tolerance 1/min : + 15

rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 1250

LOW IDLE

control lever
 position degree : 65.0
 tolerance degree : + 4.0

control lever
 position degree : 11.0
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 225

CRT mm min. : > 6.70

Testing:

Rated speed rpm : 325
 rack travel mm : 5.30
 Tolerance mm : + 0.30

rack travel mm : 2.00
 Rated speed rpm : 495
 Tolerance 1/min : + 30

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.40
Tolerance mm : \pm 0.05

Rated speed rpm : 500
Pressure hPa : -
Tolerance mm : \pm 0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 300
rack travel mm : 11.00
Tolerance mm : \pm 0.10

Pressure hPa : 665
rack travel mm : 13.00
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 143.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 410.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

L03

Rated speed rpm : 325

Rack travel in mm : 5.30
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.10.93
Test oil : ISO 4113
Combination No. : 0 402 646 642
Injection pump
Pump designation : PE6P120A32DLS7278
EP type number : 0 412 626 880
Governor
Governor design. : RGV325...1000PA1058
: -4
Governor no. : 0 421 814 080

Cust. part No. :

Customer spec. information
Customer : LIAZ
Motor : ML636P
Power KW : 152.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1 688 901 103
Opening pressure
bar : 20±.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 089
Outside diameter : 8.0

L04

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 5.35
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75
Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 325
Rack travel in mm : 4.00
Tolerance mm : ± 0.30

Del. quantity
 cm³/1000 strokes : 24.0
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1045
 guide sleeve
 travel mm : 8.53
 Tolerance mm : + 0.15

Rated speed rpm : 325
 guide sleeve
 travel mm : 1.55
 Tolerance mm : + 0.20

Rated speed rpm : 760
 guide sleeve
 travel mm : 5.73
 Tolerance mm : + 0.25

Rated speed rpm : 354
 guide sleeve
 travel mm : 1.90
 Tolerance mm : + 0.25

Rated speed rpm : 404
 guide sleeve
 travel mm : 2.50
 Tolerance mm : + 0.25

Rated speed rpm : 490
 guide sleeve
 travel mm : 3.25
 Tolerance mm : + 0.25

Rated speed rpm : 1270
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
 position degree : - 1

L05

Rated speed rpm : 1125
 Rack travel in mm : 10.50
 Tolerance mm : + 1.30

CONTROL LEVER

control lever
 position degree : 61.0
 tolerance degree : + 4.0

control lever
 position degree : 116.0
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.60
 Rated speed rpm : 1045
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 1135
 Tolerance 1/min : + 15

rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 1250

LOW IDLE

control lever
 position degree : 64.0
 tolerance degree : + 4.0

control lever
 position degree : 9.0
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 225
 CRT mm min. : > 5.60

Testing:

Rated speed rpm : 325
 rack travel mm : 4.00
 Tolerance mm : + 0.30

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 11.60
Tolerance mm : \pm 0.05

Rated speed rpm : 500
Pressure hPa : -
Tolerance mm : \pm 0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 380
rack travel mm : 9.95
Tolerance mm : \pm 0.20

Pressure hPa : 580
rack travel mm : 11.20
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 143.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 330.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

L06

Rated speed rpm : 325

Rack travel in mm : 4.00
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 24.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.06.94
Test oil : ISO 4113
Combination No. : 0 402 646 645
Injection pump
Pump designation : PE6P120A720RS7330
EP type number : 0 412 626 917
Governor
Governor design. : RQV300...1200PA1143K
Governor no. : 0 421 815 412

Cust. part No. : 615.60.08.0210

Customer-spec. information
Customer : SNF
Motor : WD612.32
Power kW : 169.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

L07

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.20
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 15.00
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 12.50
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 178.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.00

Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 16.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1255
guide sleeve
travel mm : 10.44
Tolerance mm : + 0.25

Rated speed rpm : 300
guide sleeve
travel mm : 1.75
Tolerance mm : + 0.25

Rated speed rpm : 843
guide sleeve
travel mm : 6.59
Tolerance mm : + 0.25

Rated speed rpm : 333
guide sleeve
travel mm : 2.29
Tolerance mm : + 0.25

Rated speed rpm : 383
guide sleeve
travel mm : 2.89
Tolerance mm : + 0.25

Rated speed rpm : 490
guide sleeve
travel mm : 3.86
Tolerance mm : + 0.25

Rated speed rpm : 1490
guide sleeve
travel mm : 13.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1340

Rack travel in mm : 11.20
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 178.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 120.0
tolerance degree : + 4.0

RATED SPEED
rack travel mm : 11.40
Rated speed rpm : 1245
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1345
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1450

LOW IDLE

control lever
position degree : 73.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 200
CRT mm min. : $>$ 8.00

Testing:

Rated speed rpm : 300
rack travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm : 1200
rack travel mm : 12.50
Tolerance mm : \pm 0.05

Rated speed rpm : 1000
rack travel mm : 12.80
Tolerance mm : \pm 0.10

Rated speed rpm : 800
rack travel mm : 12.25
Tolerance mm : \pm 0.10

Rated speed rpm : 650
rack travel mm : 11.50
Tolerance mm : \pm 0.10

Rated speed rpm : 500
rack travel mm : 11.50
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1200
Pressure hPa : 1200
rack travel mm : 12.50
Tolerance mm : \pm 0.05

Rated speed rpm : 1200

L09

Pressure hPa : -
rack travel mm : 9.90
Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 1200

Pressure hPa : 755
rack travel mm : 12.15
Tolerance mm : \pm 0.10

Pressure hPa : 355
rack travel mm : 10.20
Tolerance mm : \pm 0.05

Start interlock

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 230

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 250

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 190.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000s. : \pm 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 800
rack travel mm : 12.25
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 192.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 4.0
Spread

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 182.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 187.5
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 148.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 7.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 13.50

Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : + 15.0
Check tolerance
cm³/1000S. : + 19.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 6.00
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.06.94
Test oil : ISO 4113
Combination No. : 0 402 646 648
Injection pump
Pump designation : PE6P120A720RS7330
EP type number : 0 412 626 917
Governor
Governor design. : RQV300...1200PA1144K
Governor no. : 0 421 815 417

Cust. part No. : 612.60.08.0211

Customer-spec. information
Customer : SNF
Motor : WD612.34
Power KW : 191.0

TEST BENCH REQUIREMENTS

Inlet Line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.20
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 15.00
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 13.90
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 190.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.80

Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spreed

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1255
guide sleeve
travel mm : 9.85
Tolerance mm : + 0.25

Rated speed rpm : 300
guide sleeve
travel mm : 1.20
Tolerance mm : + 0.25

Rated speed rpm : 845
guide sleeve
travel mm : 6.06
Tolerance mm : + 0.25

Rated speed rpm : 335
guide sleeve
travel mm : 1.79
Tolerance mm : + 0.25

Rated speed rpm : 385
guide sleeve
travel mm : 2.47
Tolerance mm : + 0.25

Rated speed rpm : 480
guide sleeve
travel mm : 3.23
Tolerance mm : + 0.25

Rated speed rpm : 1530
guide sleeve
travel mm : 13.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1340

Rack travel in mm : 12.90
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 190.5
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 119.0
tolerance degree : + 4.0

RATED SPEED
rack travel mm : 12.90
Rated speed rpm : 1245
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1365
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1450

LOW IDLE

control lever
position degree : 73.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 200
CRT mm min. : $>$ 8.10

Testing:

Rated speed rpm : 300
rack travel mm : 6.80
Tolerance mm : \pm 0.10

Rated speed rpm : 360

TORQUE CONTROL

Rated speed rpm : 1200
rack travel mm : 13.90
Tolerance mm : \pm 0.05

Rated speed rpm : 1000
rack travel mm : 13.90
Tolerance mm : \pm 0.10

Rated speed rpm : 800
rack travel mm : 13.80
Tolerance mm : \pm 0.10

Rated speed rpm : 650
rack travel mm : 13.00
Tolerance mm : \pm 0.10

Rated speed rpm : 500
rack travel mm : 12.70
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1200
Pressure hPa : 1200
rack travel mm : 13.90
Tolerance mm : \pm 0.05

Rated speed rpm : 1200

Pressure hPa : -
rack travel mm : 10.70
Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 1200

Pressure hPa : 965
rack travel mm : 13.50
Tolerance mm : \pm 0.10

Pressure hPa : 420
rack travel mm : 11.00
Tolerance mm : \pm 0.05

Start interlock

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 250

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 270

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 202.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 800
rack travel mm : 13.80
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 214.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 206.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 204.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 14.50

Del. quantity
cm³/1000 strokes : 175.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 20.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 6.80
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.03.98
Test oil : ISO 4113
Combination No. : 0 402 646 673
Injection pump
Pump designation : PE6P120A320RS7412
EP type number : 0 412 626 953
Governor
Governor design. : RGV275...1000PA1300K
Governor no. : 0 421 815 527

Cust. part No. : 1315099

Customer spec. information

Customer : DAF
Motor : XF 250 M
Power KW : 250.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 150
Tolerance l/h : ± 20.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.45
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery mark

Tolerance : ± 0.10
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 12.00
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 289.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 275

Rack travel in mm : 3.90
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 17.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1072
guide sleeve
travel mm : 10.16
Tolerance mm : \pm 0.15

Rated speed rpm : 275
guide sleeve
travel mm : 2.04
Tolerance mm : \pm 0.20

Rated speed rpm : 701
guide sleeve
travel mm : 6.52
Tolerance mm : \pm 0.25

Rated speed rpm : 400
guide sleeve
travel mm : 3.92
Tolerance mm : \pm 0.25

Rated speed rpm : 1310
guide sleeve
travel mm : 13.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1181

Rack travel in mm : 10.00
Tolerance mm : \pm 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 750
Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 289.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 118.0
tolerance degree : \pm 4.0

RATED SPEED
rack travel mm : 10.50
Rated speed rpm : 1045
Tolerance 1/min : \pm 5
Check
speed 1/min : \pm 10

rack travel mm : 4.00
Rated speed rpm : 1140
Tolerance 1/min : \pm 15
Check
speed 1/min : \pm 20

rack travel mm : 0.70
Tolerance mm : \pm 0.70
Rated speed rpm : 1275

LOW IDLE

control lever
position degree : 70.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 175

CRT mm min. : $>$ 6.50

Testing:

Rated speed rpm : 275
rack travel mm : 3.90
Tolerance mm : \pm 0.10

Rated speed rpm : 310

TORQUE CONTROL

Rated speed rpm : 750
rack travel mm : 12.00
Tolerance mm : \pm 0.05

Rated speed rpm : 980
rack travel mm : 11.50
Tolerance mm : \pm 0.10

Rated speed rpm : 900
rack travel mm : 11.70
Tolerance mm : \pm 0.10

Rated speed rpm : 700
rack travel mm : 12.00
Tolerance mm : \pm 0.10

Rated speed rpm : 600
rack travel mm : 11.40
Tolerance mm : \pm 0.10

Rated speed rpm : 500
rack travel mm : 10.90
Tolerance mm : \pm 0.10

Rated speed rpm : 1000
rack travel mm : 11.50
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 775
Pressure hPa : 1500
rack travel mm : 12.00
Tolerance mm : \pm 0.10

Rated speed rpm : 775
Pressure hPa : -
rack travel mm : 8.30
Tolerance mm : \pm 0.20

MEASUREMENT

Rated speed rpm : 775

Pressure hPa : 460
rack travel mm : 11.00
Tolerance mm : \pm 0.05

Pressure hPa : 250
rack travel mm : 9.30
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 980
Del. quantity
cm³/1000 strokes : 250.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 5.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

rack travel mm : 11.70
Tolerance mm : \pm 0.10

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 188.0

Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

LOW IDLE

Rated speed rpm : 275

Rack travel in mm : 3.90
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.04.96
Test oil : ISO 4113

Combination No. : 0 402 646 741

Injection pump
Pump designation : PE6P120A320LS7872
EP type number : 0 412 626 912

Governor
Governor design. : RQ750PA1231
Governor no. : 0 421 801 791

Cust. part No. : 04222728KY0165-17

Customer-spec. information

Customer : KHD
Motor : BF6M1015/C
Power kW : 239.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 100
Tolerance l/h : ± 20.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.05
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 6- 3- 5- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery mark

Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.30
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 365.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 715
guide sleeve
travel mm : 4.23
Tolerance mm : \pm 0.15

Rated speed rpm : 610
guide sleeve
travel mm : 0.72
Tolerance mm : \pm 0.25

Rated speed rpm : 900
guide sleeve
travel mm : 14.89
Tolerance mm : \pm 0.25

Rated speed rpm : 862

guide sleeve
travel mm : 12.00
Tolerance mm : \pm 0.25

Rated speed rpm : 930
guide sleeve
travel mm : 13.50
Tolerance mm : \pm 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 365.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 109.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 900

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750
rack travel mm : 12.30

Rated speed rpm : 780
Tolerance 1/min : \pm 4
rack travel mm : 5.50

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 900

Rated speed rpm : 751
rack travel mm : 12.30

Rated speed rpm : 781
Tolerance 1/min : \pm 4

rack travel mm	:	5.50
rack travel mm	:	0.50
Tolerance mm	:	+ 0.50
Rated speed rpm	:	900
Rated speed rpm	:	752
rack travel mm	:	12.30
Rated speed rpm	:	782
Tolerance 1/min	:	+ 4
rack travel mm	:	5.50
rack travel mm	:	0.50
Tolerance mm	:	+ 0.50
Rated speed rpm	:	900
Rated speed rpm	:	753
rack travel mm	:	12.30
Rated speed rpm	:	783
Tolerance 1/min	:	+ 4
rack travel mm	:	5.50
rack travel mm	:	0.50
Tolerance mm	:	+ 0.50
Rated speed rpm	:	900
Rated speed rpm	:	754
rack travel mm	:	12.30
Rated speed rpm	:	784
Tolerance 1/min	:	+ 4
rack travel mm	:	5.50
rack travel mm	:	0.50
Tolerance mm	:	+ 0.50
Rated speed rpm	:	900
Rated speed rpm	:	755
rack travel mm	:	12.30
Rated speed rpm	:	785
Tolerance 1/min	:	+ 4
rack travel mm	:	5.50
rack travel mm	:	0.50
Tolerance mm	:	+ 0.50
Rated speed rpm	:	900

TORQUE CONTROL

Rated speed rpm	:	700
rack travel mm	:	13.30
Tolerance mm	:	+ 0.05

Start interlock

Rated speed rpm	:	> 100
Rated speed rpm	:	< 560

Check speed 1/min	:	> 80
Check speed 1/min	:	< 580

STARTING FUEL DELIVERY

Rated speed rpm	:	100
rack travel mm	:	20.25
Tolerance mm	:	+ 0.75
Del. quantity cm3/1000 strokes	:	200.0
Tolerance cm3/1000 strokes	:	+ 20.0
Check tolerance cm3/1000S.	:	+ 24.0

LOW IDLE

Rated speed rpm	:	300
Del. quantity cm3/1000 strokes	:	20.0
Tolerance cm3/1000 strokes	:	+ 3.0
Check tolerance cm3/1000S.	:	+ 6.0
Speed Tolerance cm3/1000 strokes	:	8.0
Check tolerance cm3/1000S.	:	12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.07.96
Test oil : ISO 4113
Combination No. : 0 402 646 779
Injection pump
Pump designation : PE6P120A320LS7872
EP type number : 0 412 626 912

Governor
Governor design. : RQ300/1000PA1163
Governor no. : J 421 801 734

Cust. part No. : B0165-6-4

Customer spec. information
Customer : KHD
Motor : BF6M1015C
Power KW : 300.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.05
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 6- 3- 5- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery mark

Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 14.00
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 340.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.00
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 23.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Spread

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1051
guide sleeve
travel mm : 6.36
Tolerance mm : ± 0.10

Rated speed rpm : 300
guide sleeve
travel mm : 1.73
Tolerance mm : ± 0.10

Rated speed rpm : 1000
guide sleeve
travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 388
guide sleeve
travel mm : 4.79

Tolerance mm : ± 0.10

Rated speed rpm : 460
guide sleeve
travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 1210
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
position degree : 109
Rated speed rpm : 465

Rack travel in mm : 20.00
Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Aneroid pressure
hPa : 1700

Del. quantity
cm³/1000 strokes : 340.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 100.0
tolerance degree : ± 4.0

RATED SPEED
rack travel mm : 13.00
Rated speed rpm : 1045
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1125
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50

Rated speed rpm : 1220

LOW IDLE

control lever
position degree : 74.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : $>$ 8.00

Testing:

Rated speed rpm : 300
rack travel mm : 5.00
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 365
Tolerance 1/min : \pm 20

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 14.00
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1700
rack travel mm : 14.00
Tolerance mm : \pm 0.05

Rated speed rpm : 400
Pressure hPa : -
rack travel mm : 8.90
Tolerance mm : \pm 0.20

MEASUREMENT

Rated speed rpm : 400
Pressure hPa : 365
rack travel mm : 9.80
Tolerance mm : \pm 0.10

Pressure hPa : 1000

rack travel mm : 13.00
Tolerance mm : \pm 0.05

Start interlock

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 220

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 230.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 21.00
Del. quantity
cm³/1000 strokes : 190.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 5.00
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000s. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.08.94

Test oil : ISO 4113

Combination No. : 0 402 646 788

Injection pump

Pump designation : PE6P120A320LS7858

EP type number : 0 412 626 875

Governor

Governor design. : RQ300/1050PA1031-11

Governor no. : 0 421 801 680

Cust. part No. : 0240740302

Customer-spec. information

Customer : MB-NFZ

Motor : OM401 LA

Power KW : 200.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Tolerance bar : ± 0.1

Overflow quantity

min. l/h : 110

Tolerance l/h : ± 10.0

Test nozzle holder
assembly

: 1 688 901 105

Opening pressure
bar

: 208.5

Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : ± 1.0

Prestroke mm : 5.55

Tolerance mm : ± 0.05

Check

tolerance mm : ± 0.10

Rack travel in mm : 20.50

Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240

: -300-360

Tolerance : ± 0.30

Check

tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.75

Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 190.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.20
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Speed

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1103
guide sleeve
travel mm : 6.38
Tolerance mm : ± 0.10

Rated speed rpm : 300
guide sleeve
travel mm : 2.59
Tolerance mm : ± 0.10

Rated speed rpm : 1050
guide sleeve
travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 410

guide sleeve
travel mm : 5.25
Tolerance mm : ± 0.10

Rated speed rpm : 480
guide sleeve
travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 1280
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
position degree : 109
Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : 800
Del. quantity
cm³/1000 strokes : 190.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 94.0
tolerance degree : ± 4.0

RATED SPEED
rack travel mm : 10.75
Rated speed rpm : 1098
Tolerance 1/min : ± 8

rack travel mm : 4.00
Rated speed rpm : 1175
Tolerance 1/min : ± 15

rack travel mm : 0.75
Tolerance mm : \pm 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 74.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 200
CRT mm min. : $>$ 7.50

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 380
Tolerance 1/min : \pm 20

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 11.75
Tolerance mm : \pm 0.05

Rated speed rpm : 550
rack travel mm : 11.75
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 800
rack travel mm : 11.75
Tolerance mm : \pm 0.05

Rated speed rpm : 400
Pressure hPa : -
rack travel mm : 9.75
Tolerance mm : \pm 0.15

MEASUREMENT

Pressure hPa : -

Rated speed rpm : 500
rack travel mm : 9.75
Tolerance mm : \pm 0.15

Rated speed rpm : 400

Pressure hPa : 200
rack travel mm : 10.60
Tolerance mm : \pm 0.10

Pressure hPa : 350
rack travel mm : 11.25
Tolerance mm : \pm 0.05

Start interlock

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 220

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 800
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 184.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 350
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500

Del. quantity
cm³/1000 strokes : 127.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000s. : ± 4.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 220.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000s. : ± 14.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 5.20
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000s. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000s. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.02.87
Test oil : ISO 4113

Combination No. : 0 402 646 803

Injection pump
Pump designation : PE6P120A72ORS7004
EP type number : 0 412 626 801

Governor
Governor design. : RQ750PA528
Governor no. : 0 421 801 126

Cust. part No. :

Customer-spec. information

Customer : SAAB-SCANIA
Motor : s. Bemerkungen

TEST BENCH REQUIREMENTS

Inlet line : 2.4

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 1.5

MO2

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Del. quantity
cm3/1000 strokes : 210.0

Tolerance
cm3/1000 strokes : ± 1.0

Check tolerance
cm3/1000S. : ± 4.0

Speed

Tolerance
cm3/1000 strokes : 6.0

Check tolerance
cm3/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 87.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 11.80
Rated speed rpm : 753
Tolerance 1/min : \pm 3

rack travel mm : 4.00
Rated speed rpm : 791
Tolerance 1/min : \pm 7

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750
rack travel mm : 11.80

Rated speed rpm : 788
Tolerance 1/min : \pm 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 850

Rated speed rpm : 751
rack travel mm : 11.80

Rated speed rpm : 789
Tolerance 1/min : \pm 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 850

Rated speed rpm : 752
rack travel mm : 11.80

Rated speed rpm : 790
Tolerance 1/min : \pm 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 850

Rated speed rpm : 753
rack travel mm : 11.80

Rated speed rpm : 791
Tolerance 1/min : \pm 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 850

Rated speed rpm : 754
rack travel mm : 11.80

Rated speed rpm : 792
Tolerance 1/min : \pm 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 850

Rated speed rpm : 755
rack travel mm : 11.80

Rated speed rpm : 793
Tolerance 1/min : \pm 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 850

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 265.0
Tolerance
cm³/1000 strokes : \pm 25.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.10.94
Test oil : ISO 4113

Combination No. : 0 402 646 892

Injection pump
Pump designation : PE6P120A720RS7170
EP type number : 0 412 626 829

Governor
Governor design. : RQSDCPA758-12
Governor no. : 0 421 801 500

Cust. part No. : 1305084

Customer-spec. information
Customer : SCANIA
Motor : DS 11

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration
damper
(RoBo diaphragm) : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

M05

Outside diameter : 6.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : 12.55
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 247.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed

Tolerance

cm³/1000 strokes : 7.0

Check tolerance

cm³/1000S. : 10.0

Rack travel in mm : 5.90

Tolerance mm : +- 0.20

Del. quantity

cm³/1000 strokes : 16.0

Tolerance

cm³/1000 strokes : +- 4.0

Check tolerance

cm³/1000S. : +- 6.0

Spreed

Tolerance

cm³/1000 strokes : 4.0

Check tolerance

cm³/1000S. : 7.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 909

guide sleeve

travel mm : 3.73

Tolerance mm : +- 0.25

Rated speed rpm : 630

guide sleeve

travel mm : -7.07

Tolerance mm : +- 0.25

Rated speed rpm : 1050

guide sleeve

travel mm : 16.80

Tolerance mm : +- 0.25

Rated speed rpm : 989

guide sleeve

travel mm : 10.00

Tolerance mm : +- 0.25

Rated speed rpm : 1050

guide sleeve

travel mm : 11.50

Tolerance mm : +- 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 850

Aneroid pressure

hPa : 900

Del. quantity

cm³/1000 strokes : 247.0

Tolerance

cm³/1000 strokes : +- 1.0

Check tolerance

cm³/1000S. : +- 4.0

Spreed

Tolerance

cm³/1000 strokes : 7.0

Check tolerance

cm³/1000S. : 10.0

CONTROL LEVER

control lever

position degree : 86.0

tolerance degree : +- 4.0

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 900

rack travel mm : 11.50

Rated speed rpm : 946

Tolerance 1/min : +- 4

rack travel mm : 4.00

rack travel mm : 0.50

Tolerance mm : +- 0.50

Rated speed rpm : 1000

Rated speed rpm : 901

rack travel mm : 11.50

Rated speed rpm : 947

Tolerance 1/min : +- 4

rack travel mm : 4.00

rack travel mm : 0.50

Tolerance mm : +- 0.50

Rated speed rpm : 1000

Rated speed rpm : 902

rack travel mm : 11.50

Rated speed rpm : 948

Tolerance 1/min : +- 4

rack travel mm : 4.00

rack travel mm : 0.50

Tolerance mm : +- 0.50

Rated speed rpm : 1000

Rated speed rpm : 903
rack travel mm : 11.50

Rated speed rpm : 949
Tolerance 1/min : ± 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1000

Rated speed rpm : 904
rack travel mm : 11.50

Rated speed rpm : 950
Tolerance 1/min : ± 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1000

Rated speed rpm : 905
rack travel mm : 11.50

Rated speed rpm : 951
Tolerance 1/min : ± 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1000

TORQUE CONTROL

Rated speed rpm : 850
rack travel mm : 12.55
Tolerance mm : ± 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 12.55
Tolerance mm : ± 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 9.90
Tolerance mm : ± 0.20

M07

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 370
rack travel mm : 10.85
Tolerance mm : ± 0.15

Pressure hPa : 575
rack travel mm : 12.05
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 152.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000s. : ± 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 9.90
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 110.0
Tolerance
cm³/1000 strokes : ± 20.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.11.93
Test oil : ISO 4113

Combination No. : 0 402 646 915X

Injection pump
Pump designation : PE6P120A320LS7836
: -10
EP type number : 0 412 626 854

Governor
Governor design. : RQ300/1050PA972
Governor no. : 0 421 801 542

Cust. part No. : 0200740202

Customer spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power KW : 200.0

TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

M08

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.20
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 202.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.60
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Spread

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1108
guide sleeve
travel mm : 6.37
Tolerance mm : ± 0.10

Rated speed rpm : 300
guide sleeve
travel mm : 1.44
Tolerance mm : ± 0.10

Rated speed rpm : 1050
guide sleeve
travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 404
guide sleeve
travel mm : 3.86

M09

Tolerance mm : ± 0.10

Rated speed rpm : 520
guide sleeve
travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 1280
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
position degree : 109
Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : 1400

Del. quantity
cm³/1000 strokes : 202.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 98.0
tolerance degree : ± 4.0

RATED SPEED
rack travel mm : 12.20
Rated speed rpm : 1098
Tolerance 1/min : ± 8

rack travel mm : 4.00
Rated speed rpm : 1180
Tolerance 1/min : ± 15

rack travel mm : 0.75
Tolerance mm : ± 0.75

Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 74.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : $>$ 7.50

Testing:

Rated speed rpm : 300
rack travel mm : 5.60
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : \pm 20

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 13.20
Tolerance mm : \pm 0.05

Rated speed rpm : 800
rack travel mm : 13.20
Tolerance mm : \pm 0.05

Rated speed rpm : 600
rack travel mm : 13.20
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1400
rack travel mm : 13.20
Tolerance mm : \pm 0.05

Rated speed rpm : 400
Pressure hPa : -
rack travel mm : 10.25
Tolerance mm : \pm 0.15

MEASUREMENT

M10

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.15
Tolerance mm : \pm 0.15

Rated speed rpm : 400

Pressure hPa : 200
Tolerance mm : \pm 0.10

Pressure hPa : 350
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1400
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 204.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

rack travel mm : 13.20
Tolerance mm : \pm 0.05

Aneroid pressure
hPa : 350
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000s. : \pm 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 130.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000s. : \pm 4.0
Speed

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.25
Tolerance mm : \pm 0.15
Del. quantity
cm³/1000 strokes : 60.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 5.60
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 08.11.93
Test oil : ISO 4113
Combination No. : 0 402 646 922X
Injection pump
Pump designation : PE6P120A320LS7834
: -10
EP type number : 0 412 626 853
Governor
Governor design. : RQ300/1050PA972-2
Governor no. : 0 421 801 556

Cust. part No. : 0200741102

Customer spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power KW : 213.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

M12

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 14.10
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 217.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.20
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Speed

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : 109
Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 217.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 97.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 13.10

Rated speed rpm : 1098

Tolerance 1/min : ± 8

rack travel mm : 4.00

Rated speed rpm : 1190

Tolerance 1/min : ± 15

rack travel mm : 0.75

Tolerance mm : ± 0.75

Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 72.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 8.50

Testing:

Rated speed rpm : 300

rack travel mm : 6.20

Tolerance mm : ± 0.10

rack travel mm : 2.00

Rated speed rpm : 400

Tolerance 1/min : ± 20

TORQUE CONTROL

Rated speed rpm : 1050

rack travel mm : 14.10
Tolerance mm : \pm 0.05

Rated speed rpm : 800
rack travel mm : 14.10
Tolerance mm : \pm 0.05

Rated speed rpm : 600
rack travel mm : 14.10
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1500
rack travel mm : 14.10
Tolerance mm : \pm 0.05

Rated speed rpm : 400
Pressure hPa : -
rack travel mm : 9.45
Tolerance mm : \pm 0.15

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.45
Tolerance mm : \pm 0.15

Rated speed rpm : 400

Pressure hPa : 350
Tolerance mm : \pm 0.05

Pressure hPa : 550
rack travel mm : 13.30
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 218.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 5.0
Spreed

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

rack travel mm : 14.10
Tolerance mm : \pm 0.05

Aneroid pressure
hPa : 350
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000s. : \pm 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 130.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000s. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 60.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000s. : \pm 19.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 6.20
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm3/1000 strokes : + 3.0
Check tolerance
cm3/1000S. : + 6.0
Spreed
Tolerance
cm3/1000 strokes : 6.0
Check tolerance
cm3/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.09.93
Test oil : ISO 4113
Combination No. : 0 402 646 924X
Injection pump
Pump designation : PE6P120A320LS7837
: -10
EP type number : 0 412 626 855
Governor
Governor design. : RQ300/950PA971-3
Governor no. : 0 421 801 557

Cust. part No. : 0200743202

Customer-spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power kW : 250.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Del. quantity
cm³/1000 strokes : 245.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance cm ³ /1000S.	: + 4.0
<hr/>	
Spread	
Tolerance cm ³ /1000 strokes	: 5.0
<hr/>	
Check tolerance cm ³ /1000S.	: 9.0
<hr/>	
Rated speed rpm	: 300
Rack travel in mm	: 5.90
Tolerance mm	: + 0.10
Del. quantity cm ³ /1000 strokes	: 19.0
Tolerance cm ³ /1000 strokes	: + 3.0
Check tolerance cm ³ /1000S.	: + 6.0
Spread	
Tolerance cm ³ /1000 strokes	: 6.0
Check tolerance cm ³ /1000S.	: 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 1010
guide sleeve travel mm	: 6.68
Tolerance mm	: + 0.10
<hr/>	
Rated speed rpm	: 300
guide sleeve travel mm	: 2.12
Tolerance mm	: + 0.10
<hr/>	
Rated speed rpm	: 950
guide sleeve travel mm	: 6.35
Tolerance mm	: + 0.10
<hr/>	
Rated speed rpm	: 401
guide sleeve travel mm	: 4.49
Tolerance mm	: + 0.10
<hr/>	
Rated speed rpm	: 500
guide sleeve travel mm	: 6.00
Tolerance mm	: + 0.10

Rated speed rpm	: 1160
guide sleeve travel mm	: 11.50
Tolerance mm	: + 0.50

GUIDE SLEEVE POSITION

control lever position degree	: 109
Rated speed rpm	: 600

Rack travel in mm	: 20.00
Tolerance mm	: + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 600
Aneroid pressure hPa	: 1200
Del. quantity cm ³ /1000 strokes	: 245.0
Tolerance cm ³ /1000 strokes	: + 1.0
Check tolerance cm ³ /1000S.	: + 4.0
Spread	
Tolerance cm ³ /1000 strokes	: 5.0
Check tolerance cm ³ /1000S.	: 9.0

CONTROL LEVER

control lever position degree	: 98.0
tolerance degree	: + 4.0

RATED SPEED	
rack travel mm	: 14.05
Rated speed rpm	: 998
Tolerance 1/min	: + 8

rack travel mm	: 4.00
Rated speed rpm	: 1095
Tolerance 1/min	: + 15

rack travel mm	: 0.75
Tolerance mm	: + 0.75
Rated speed rpm	: 1200

LOW IDLE

control lever
position degree : 74.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 200
CRT mm min. : > 8.20

Testing:

Rated speed rpm : 300
rack travel mm : 5.90
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : ± 20

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 15.05
Tolerance mm : ± 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1200
rack travel mm : 15.05
Tolerance mm : ± 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 9.05
Tolerance mm : ± 0.15

MEASUREMENT

Rated speed rpm : 600
Pressure hPa : 150
rack travel mm : 9.70
Tolerance mm : ± 0.10

Pressure hPa : 550
rack travel mm : 13.45
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 950
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 204.5
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 9.10
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 80.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 5.90
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000s. : + 6.0

Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000s. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.09.93
Test oil : ISO 4113

Combination No. : 0 402 646 925X

Injection pump
Pump designation : PE6P120A320LS7837
: -10
EP type number : 0 412 626 855

Governor
Governor design. : RQV300...950PA797
: -20
Governor no. : 0 421 813 893

Cust. part No. : 0200743302

Customer-spec. information
Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5

M20

Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Del. quantity
cm³/1000 strokes : 245.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.90

Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Speed

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1025

Rack travel in mm : 16.50
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 245.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Speed

Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 124.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 14.05
Rated speed rpm : 995
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1100
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 86.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 7.70

Testing:

Rated speed rpm : 300
rack travel mm : 5.90
Tolerance mm : + 0.10

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 15.05
Tolerance mm : + 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1200
rack travel mm : 15.05
Tolerance mm : \pm 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 9.05
Tolerance mm : \pm 0.15

MEASUREMENT

Rated speed rpm : 600

Pressure hPa : 150
rack travel mm : 9.70
Tolerance mm : \pm 0.10

Pressure hPa : 550
rack travel mm : 13.45
Tolerance mm : \pm 0.05

Start interlock

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 240

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 950
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 204.5
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 260.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 5.90
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.09.93
Test oil : ISO 4113

Combination No. : 0 402 646 926X

Injection pump
Pump designation : PE6P120A320LS7834
: -10
EP type number : 0 412 626 853

Governor
Governor design. : RQV300...950PA797
: -19
Governor no. : 0 421 813 901

Cust. part No. : 0180740502

Customer spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5

M24

Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Del. quantity
cm³/1000 strokes : 241.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.60

Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1020

Rack travel in mm : 16.50
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 241.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spread

Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 122.0
tolerance degree : + 4.0

RATED SPEED
rack travel mm : 14.00
Rated speed rpm : 995
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1085
Tolerance 1/min : + 15

rack travel mm : 0.70
Tolerance mm : + 0.70
Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 86.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 8.50

Testing:

Rated speed rpm : 300
rack travel mm : 6.60
Tolerance mm : + 0.10

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 15.00
Tolerance mm : + 0.10

Rated speed rpm : 800
rack travel mm : 15.30
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 550
Pressure hPa : 1200
rack travel mm : 15.30
Tolerance mm : \pm 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.25
Tolerance mm : \pm 0.15

MEASUREMENT

Rated speed rpm : 550
Pressure hPa : 550
rack travel mm : 12.90
Tolerance mm : \pm 0.05

Pressure hPa : 250
rack travel mm : 10.90
Tolerance mm : \pm 0.10

Start interlock

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 240

Check
speed 1/min : $>$ 30
Check
speed 1/min : $<$ 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 237.5
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

rack travel mm : 15.30
Tolerance mm : \pm 0.10

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 190.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 215.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 6.60
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed

Tolerance
ca3/1000 strokes : 6.0
Check tolerance
ca3/1000s. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.09.93
Test oil : ISO 4113

Combination No. : 0 402 646 929X

Injection pump
Pump designation : PE6P120A320LS7834
: -10
EP type number : 0 412 626 853

Governor
Governor design. : RQV300...1050PA797
: -25
Governor no. : 0 421 813 924

Cust. part No. : 0200744102

Customer spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5

Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Del. quantity
cm³/1000 strokes : 241.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.60

Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1130

Rack travel in mm : 13.90
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 241.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spread

NO1

Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 124.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 14.00
Rated speed rpm : 1095
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1185
Tolerance 1/min : + 15

rack travel mm : 0.70
Tolerance mm : + 0.70
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 89.5
tolerance degree : + 2.5

Setting point w/out bumper spring

Rated speed rpm : 200
CRT mm min. : > 8.70

Testing:

Rated speed rpm : 300
rack travel mm : 6.60
Tolerance mm : + 0.10

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 15.00
Tolerance mm : + 0.10

Rated speed rpm : 800
rack travel mm : 15.30
Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 550
Pressure hPa : 1200
rack travel mm : 15.30
Tolerance mm : \pm 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.25
Tolerance mm : \pm 0.15

MEASUREMENT

Rated speed rpm : 550

Pressure hPa : 550
rack travel mm : 12.90
Tolerance mm : \pm 0.05

Pressure hPa : 250
rack travel mm : 10.90
Tolerance mm : \pm 0.10

Start interlock

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 240

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 235.5
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

rack travel mm : 15.30
Tolerance mm : \pm 0.10

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 190.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 215.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 6.60
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed

Tolerance
cm3/1000 strokes : 6.0
Check tolerance
cm3/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.10.93
Test oil : ISO 4113

Combination No. : 0 402 646 931X

Injection pump
Pump designation : PE6P120A320LS7837
: -10
EP type number : 0 412 626 855

Governor
Governor design. : RQV300...1050PA797
: -24
Governor no. : 0 421 813 911

Cust. part No. : 0200748302

Customer-spec. information
Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5

N04

Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 15.05
Tolerance mm : ± 0.05

Del. quantity cm ³ /1000 strokes	: 245.0
<hr/>	
Tolerance cm ³ /1000 strokes	: ± 1.0
<hr/>	
Check tolerance cm ³ /1000S.	: ± 4.0
<hr/>	
Speed	
<hr/>	
Tolerance cm ³ /1000 strokes	: 5.0
<hr/>	
Check tolerance cm ³ /1000S.	: 9.0
<hr/>	

Rated speed rpm	: 300
Rack travel in mm	: 5.90
Tolerance mm	: ± 0.10
Del. quantity cm ³ /1000 strokes	: 19.0
Tolerance cm ³ /1000 strokes	: ± 3.0
Check tolerance cm ³ /1000S.	: ± 6.0
Speed	
Tolerance cm ³ /1000 strokes	: 6.0
Check tolerance cm ³ /1000S.	: 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree	: - 1
Rated speed rpm	: 1100
Rack travel in mm	: 16.50
Tolerance mm	: ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 600
Aneroid pressure hPa	: 1200
Del. quantity cm ³ /1000 strokes	: 245.0

N05

Tolerance cm ³ /1000 strokes	: ± 1.0
Check tolerance cm ³ /1000S.	: ± 4.0
Speed	
Tolerance cm ³ /1000 strokes	: 5.0
Check tolerance cm ³ /1000S.	: 9.0

CONTROL LEVER

control lever position degree	: 122.0
tolerance degree	: ± 4.0

RATED SPEED

rack travel mm	: 13.90
Rated speed rpm	: 1098
Tolerance 1/min	: ± 8

rack travel mm	: 4.00
Rated speed rpm	: 1180
Tolerance 1/min	: ± 15

rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1300

LOW IDLE

control lever position degree	: 85.0
tolerance degree	: ± 4.0

Setting point w/out bumper spring

Rated speed rpm	: 200
CRT mm min.	: > 7.70

Testing:

Rated speed rpm	: 300
rack travel mm	: 5.90
Tolerance mm	: ± 0.10

Rated speed rpm	: 425
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TORQUE CONTROL

Rated speed rpm	: 600
rack travel mm	: 15.05
Tolerance mm	: ± 0.05

Rated speed rpm : 1050
rack travel mm : 14.90
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 15.05
Tolerance mm : \pm 0.05

Rated speed rpm : 400
Pressure hPa : -
rack travel mm : 9.05
Tolerance mm : \pm 0.15

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.05
Tolerance mm : \pm 0.15

Rated speed rpm : 400

Pressure hPa : 550
rack travel mm : 13.45
Tolerance mm : \pm 0.05

Pressure hPa : 150
rack travel mm : 9.70
Tolerance mm : \pm 0.10

Start interlock

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 220

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 236.0

Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 204.5
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000s. : \pm 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000s. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 230.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000s. : \pm 14.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 5.90
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.11.93
Test oil : ISO 4113

Combination No. : 0 402 646 939X

Injection pump
Pump designation : PE6P120A320LS7836
: -10
EP type number : 0 412 626 854

Governor
Governor design. : RQV300...950PA797
: -31
Governor no. : 0 421 813 922

Cust. part No. : 0200742302

Customer-spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power KW : 200.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5

NO8

Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 950

Rack travel in mm : 13.20
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 204.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.60
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Spread

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1009
guide sleeve
travel mm : 8.54
Tolerance mm : ± 0.20

Rated speed rpm : 300
guide sleeve
travel mm : 1.29
Tolerance mm : ± 0.15

Rated speed rpm : 1570
guide sleeve
travel mm : 24.56
Tolerance mm : ± 0.25

Rated speed rpm : 567

guide sleeve
travel mm : 4.66
Tolerance mm : ± 0.25

Rated speed rpm : 617
guide sleeve
travel mm : 5.23
Tolerance mm : ± 0.25

Rated speed rpm : 780
guide sleeve
travel mm : 6.31
Tolerance mm : ± 0.25

Rated speed rpm : 1092
guide sleeve
travel mm : 10.00
Tolerance mm : ± 0.25

Rated speed rpm : 1190
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1020

Rack travel in mm : 16.50
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 950
Aneroid pressure
hPa : 1400
Del. quantity
cm³/1000 strokes : 204.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 122.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 12.20
Rated speed rpm : 995
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1090
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 86.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 200
CRT mm min. : $>$ 7.40

Testing:

Rated speed rpm : 300
rack travel mm : 5.60
Tolerance mm : \pm 0.10

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 13.20
Tolerance mm : \pm 0.05

Rated speed rpm : 800
rack travel mm : 13.20
Tolerance mm : \pm 0.05

Rated speed rpm : 600
rack travel mm : 13.20
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400

N10

Pressure hPa : 1400
rack travel mm : 13.20
Tolerance mm : \pm 0.05

Rated speed rpm : 400
Pressure hPa : -
rack travel mm : 10.45
Tolerance mm : \pm 0.15

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.45
Tolerance mm : \pm 0.15

Rated speed rpm : 400

Pressure hPa : 350
Tolerance mm : \pm 0.05

Pressure hPa : 200
Tolerance mm : \pm 0.10

Start interlock

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 240

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1400
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 204.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

rack travel mm : 13.20
Tolerance mm : \pm 0.05

Aneroid pressure
hPa : 350
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 5.60
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.09.93
Test oil : ISO 4113

Combination No. : 0 402 646 942X

Injection pump
Pump designation : PE6P120A320LS7837
: -10
EP type number : 0 412 626 855

Governor
Governor design. : RQ300/1050PA993
Governor no. : 0 421 801 581

Cust. part No. : 0200747102

Customer-spec. information
Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Del. quantity
cm³/1000 strokes : 245.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.90

Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : 109
Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 245.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 99.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 13.90

Rated speed rpm : 1098

Tolerance 1/min : + 8

rack travel mm : 4.00

Rated speed rpm : 1185

Tolerance 1/min : + 15

rack travel mm : 0.75

Tolerance mm : + 0.75

Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 8.10

Testing:

Rated speed rpm : 300

rack travel mm : 5.90

Tolerance mm : + 0.10

rack travel mm : 2.00

Rated speed rpm : 400

Tolerance 1/min : + 20

TORQUE CONTROL

Rated speed rpm : 1050

rack travel mm : 14.90

Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1200
rack travel mm : 15.05
Tolerance mm : \pm 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 9.05
Tolerance mm : \pm 0.15

MEASUREMENT

Rated speed rpm : 600

Pressure hPa : 150
rack travel mm : 9.70
Tolerance mm : \pm 0.10

Pressure hPa : 550
rack travel mm : 13.45
Tolerance mm : \pm 0.05

Start interlock

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 220

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 236.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 204.5
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 230.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 5.90
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.09.93
Test oil : ISO 4113

Combination No. : 0 402 646 950X

Injection pump
Pump designation : PE6P120A320LS7837
: -10
EP type number : 0 412 626 855

Governor
Governor design. : RQ300/950PA993-2
Governor no. : 0 421 801 590

Cust. part No. : 0210747902

Customer-spec. information
Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

N16

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Del. quantity
cm³/1000 strokes : 245.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.90

Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : 109
Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 245.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 102.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 14.05

Rated speed rpm : 998

Tolerance 1/min : + 8

rack travel mm : 4.00

Rated speed rpm : 1080

Tolerance 1/min : + 15

rack travel mm : 0.75

Tolerance mm : + 0.75

Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 8.30

Testing:

Rated speed rpm : 300

rack travel mm : 5.90

Tolerance mm : + 0.10

rack travel mm : 2.00

Rated speed rpm : 400

Tolerance 1/min : + 20

TORQUE CONTROL

Rated speed rpm : 950

rack travel mm : 15.05

Tolerance mm : + 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1200
rack travel mm : 15.05
Tolerance mm : + 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 9.05
Tolerance mm : + 0.15

MEASUREMENT

Rated speed rpm : 600

Pressure hPa : 150
rack travel mm : 9.70
Tolerance mm : + 0.10

Pressure hPa : 550
rack travel mm : 13.45
Tolerance mm : + 0.05

Start interlock

Rated speed rpm : > 100
Rated speed rpm : < 220

Check
speed 1/min : > 80
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 950
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 204.5
Tolerance
cm³/1000 strokes : + 1.5
Check tolerance
cm³/1000S. : + 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 250.0
Tolerance
cm³/1000 strokes : + 10.0
Check tolerance
cm³/1000S. : + 14.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 5.90
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.11.93
Test oil : ISO 4113

Combination No. : 0 402 646 952X

Injection pump
Pump designation : PE6P120A320LS7836
: -10
EP type number : 0 412 626 854

Governor
Governor design. : RQ300/1050PA972-8
Governor no. : 0 421 801 626

Cust. part No. : 0200740902

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power kW : 180.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

N20

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.70
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 183.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.60
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Speed

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1108
guide sleeve
travel mm : 6.71
Tolerance mm : ± 0.10

Rated speed rpm : 300
guide sleeve
travel mm : 1.70
Tolerance mm : ± 0.10

Rated speed rpm : 1050
guide sleeve
travel mm : 6.35
Tolerance mm : ± 0.10

Rated speed rpm : 793
guide sleeve
travel mm : 6.09

Tolerance mm : ± 0.10

Rated speed rpm : 396
guide sleeve
travel mm : 3.90
Tolerance mm : ± 0.10

Rated speed rpm : 510
guide sleeve
travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 1270
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

Rated speed rpm : 877
guide sleeve
travel mm : 6.26
Tolerance mm : ± 0.10

GUIDE SLEEVE POSITION

control lever
position degree : 109
Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : 1400

Del. quantity
cm³/1000 strokes : 183.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 96.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 11.70
Rated speed rpm : 1098
Tolerance 1/min : + 8

rack travel mm : 4.00
Rated speed rpm : 1180
Tolerance 1/min : + 15

rack travel mm : 0.75
Tolerance mm : + 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200
CRT mm min. : > 7.40

Testing:

Rated speed rpm : 300
rack travel mm : 5.60
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 390
Tolerance 1/min : + 20

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 12.70
Tolerance mm : + 0.05

Rated speed rpm : 800
rack travel mm : 12.70
Tolerance mm : + 0.05

Rated speed rpm : 600
rack travel mm : 12.70
Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400

N22

Pressure hPa : 1400
rack travel mm : 12.70
Tolerance mm : + 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.75
Tolerance mm : + 0.15

MEASUREMENT

Rated speed rpm : 400

Pressure hPa : 200
Tolerance mm : + 0.05

Pressure hPa : -
rack travel mm : 10.75
Tolerance mm : + 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1400
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 138.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000s. : + 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

rack travel mm : 12.70
Tolerance mm : + 0.05

Aneroid pressure
hPa : 200
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 119.0
Tolerance
cm³/1000 strokes : + 1.5
Check tolerance
cm³/1000s. : + 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500

Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.50
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 65.0
Tolerance
cm³/1000 strokes : +- 15.0
Check tolerance
cm³/1000S. : +- 19.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 5.60
Tolerance mm : +- 0.10
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.11.93
Test oil : ISO 4113

Combination No. : 0 402 646 953X

Injection pump
Pump designation : PE6P120A320LS7836
: -10
EP type number : 0 412 626 854

Governor
Governor design. : RQ300/950PA971-8
Governor no. : 0 421 801 625

Cust. part No. : 0200742002

Customer-spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power KW : 180.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

N24

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 950

Rack travel in mm : 12.70
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 188.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.60
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Speed

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : 109
Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 950
Aneroid pressure
hPa : 1400
Del. quantity
cm³/1000 strokes : 188.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 96.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 11.70
Rated speed rpm : 998
Tolerance 1/min : ± 8

rack travel mm : 4.00
Rated speed rpm : 1080
Tolerance 1/min : ± 15

rack travel mm : 0.75
Tolerance mm : ± 0.75
Rated speed rpm : 1100

LOW IDLE

control lever
position degree : 74.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 7.40

Testing:

Rated speed rpm : 300
rack travel mm : 5.60
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 390
Tolerance 1/min : ± 20

TORQUE CONTROL

Rated speed rpm : 950

rack travel mm : 12.70
 Tolerance mm : + 0.05

Rated speed rpm : 800
 rack travel mm : 12.70
 Tolerance mm : + 0.05

Rated speed rpm : 600
 rack travel mm : 12.70
 Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
 Pressure hPa : 1400
 rack travel mm : 12.70
 Tolerance mm : + 0.05

Rated speed rpm : 500
 Pressure hPa : -
 rack travel mm : 10.75
 Tolerance mm : + 0.15

MEASUREMENT

Rated speed rpm : 400

Pressure hPa : 200
 Tolerance mm : + 0.05

Pressure hPa : -
 rack travel mm : 10.75
 Tolerance mm : + 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 1400
 Rated speed rpm : 800
 Del. quantity
 cm³/1000 strokes : 188.0
 Tolerance
 cm³/1000 strokes : + 2.0
 Check tolerance
 cm³/1000S. : + 5.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

rack travel mm : 12.70
 Tolerance mm : + 0.05

Aneroid pressure
 hPa : 200
 Rated speed rpm : 400
 Del. quantity
 cm³/1000 strokes : 119.0
 Tolerance
 cm³/1000 strokes : + 1.5
 Check tolerance
 cm³/1000S. : + 4.5

Aneroid pressure
 hPa : -
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 133.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
 rack travel mm : 10.45
 Tolerance mm : + 0.15

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 5.60
 Tolerance mm : + 0.10
 Del. quantity
 cm³/1000 strokes : 19.0
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

End of test specification sheet